

S
025,02
W5ct
1976

Western
Interstate
Library
Coordinating
Organization

WILCO



STATE DOCUMENTS COLLECTION

DEC 12 1978

MON. 12 12 1978
930 E. 1st St.
H. 1st St. 12 12 1978

COSTS IN TECHNICAL PROCESSING AND INTERLIBRARY LOAN--
DATA PROCESSING USER'S MANUAL

PLEASE RETURN

by

Anita L. McHugh

November 1976



Montana State Library



3 0864 1004 0431 1

ABSTRACT

The following manual is a guide to the general user of programs developed for the analysis of cost and volume data collected in a survey of technical processing and interlibrary loan, within the seventeen western states and British Columbia. Programs and analysis were developed in conjunction with ten data collection instruments, and are specifically intended for use with these instruments. The programs which are documented in this manual are written in standard ANS Fortran, with the single exception of a Tab output format employed in the generation of tables. This system was developed in an IBM remote job entry environment employing an IBM 360/195. The manual details data preparation, call statements from the main program to subroutines, input/output formats, and the generated tables. Program listings for indepth cost analysis employed in twelve case studies are included. Due to the length of subroutines (3000 statements) used in the general survey of costs in 76 libraries these programs are not included in this report. Information on the availability of these programs may be obtained from WICHE publications unit.

COSTS IN TECHNICAL PROCESSING
AND INTERLIBRARY LOAN--
DATA PROCESSING USER'S MANUAL

COST AND FUNDING STUDIES OF THE PROPOSED
WESTERN INTERSTATE BIBLIOGRAPHIC NETWORK

Eleanor Montague, Program Director
Maryann Kevin Brown, Senior Staff Associate
Anita McHugh, Staff Assistant
Mary Haenselman, Secretary

Western Interstate Commission for
Higher Education
P.O. Drawer P
Boulder, Colorado 80302

The activity which is the subject of this report was supported in whole or in part by the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Office of Libraries and Learning Resources

ACKNOWLEDGEMENT

The system described herein would not have been possible without the financial support of the U.S. Office of Education, Department of Health, Education and Welfare and the state library agencies of Alaska, Arizona, California, Idaho, Montana, Nevada, Oregon, South Dakota, and Washington. We wish to extend our gratitude to the libraries participating in these studies, and to the many librarians throughout the west and elsewhere for their continued support of these studies. Special thanks are due the computer user group and programmers of the National Center for Higher Education Management Systems (NCHEMS); especially Messers. Kent Weldon, Gregory "Woody" Leonhard, Ken Malanowicz, and Dave Makowski, without whose help and encouragement this system would never have been completed.

COSTS IN TECHNICAL PROCESSING AND INTERLIBRARY LOAN--
DATA PROCESSING USER'S MANUAL

TABLE OF CONTENTS

INTRODUCTION

1.1	Cost and Funding Studies of the Proposed Western Interstate Bibliographic Network	1
1.2	Purposes of the Manual	1
1.3	The Development of the System.	2
1.4	Limits of the System	2
1.5	Instruments Used in this Survey.	3

GUIDELINES TO THE USE OF THIS MANUAL

2.1	The Structure of the Manual	5
2.2	Case Study Analysis -- the Use of Activity Sheets	5
2.3	Survey of Costs -- Use and Analysis	7
2.4	Interlibrary Loan Survey	8

GENERAL DATA PREPARATION INSTRUCTIONS

3.1	Introduction	10
3.2	The Character Set.	10
3.3	Card and Column Numbers.	10
3.4	Placement of Numeric Data.	11
3.5	Special Questions	11
3.6	Reserved Columns	12

ANALYSIS OF THE ACTIVITY SHEETS: THE FACT SUBROUTINE

4.1	Introduction	13
4.2	Data Required for the Subroutine FACT	13
4.3	Calculation of Fringe Benefits	14
4.4	Preparing the Staff Lists for the FACT Subroutine	20
4.5	Preparing the Activity Sheets for the FACT Subroutine	22
4.6	Using the FACT Subroutine	24

4.7 Fatal and Non-Fatal Errors	26
<u>ANALYSIS OF THE SURVEY DATA</u>	
5.1 Introduction	28
5.2 The Survey Data Set.	28
5.3 Stratification of Libraries for the Purposes of this Survey.	28
5.4 Reserved Columns.	30
5.5 Alterations to the Coded Key punching Format	30
5.6 Case Study Data Conversion.	37
5.7 Subprogram Calling Specifications	38
5.8 Subroutine Description and Calling Statements	41
<u>THE INTERLIBRARY LOAN SURVEY</u>	
6.1 Introduction	43
6.2 Key punching and Data Preparation Procedures.	43
6.3 Tables Generated for These Studies That Might be of Interest	44
<u>APPENDIX A</u>	
Publications List and Availability Statement	46
<u>APPENDIX B</u>	
Definition of Terms and Mathematical Formulae.	49
<u>APPENDIX C</u>	
Samples of Revised Pages	54
<u>APPENDIX D</u>	
Samples of Correctly Punched Data.	59
<u>APPENDIX E</u>	
Tables Generated From the Survey Instrument Data	63
<u>APPENDIX F</u>	
Tables Generated by the <u>FACT</u> Subroutine	122
<u>APPENDIX G</u>	
Sample Deck Set Ups	132
<u>APPENDIX H</u>	
Program Listing for the <u>FACT</u> Subroutine	136
<u>APPENDIX I</u>	
The Con Subroutine Program Listing and Sample Output	146

INTRODUCTION

1.1 Cost and Funding Studies of the Proposed Western Interstate Bibliographic Network

The Western Interstate Library Coordinating Organization (WILCO) of the Western Interstate Commission for Higher Education (WICHE) conducted cost and funding studies supportive of the related investigations into the development and implementation of western interstate bibliographic network capabilities. These studies were funded through the U.S. Office of Education under Grant No. G00 7500741 and were additionally supported by the ten member states of WILCO. As a part of these studies, three separate examinations were conducted into the costs of technical processing and interlibrary loan, and the interlibrary loan traffic throughout the west. These studies are:

- a. Survey of Costs in Technical Processing and Interlibrary Loan.
- b. Case Studies of Costs in Technical Processing and Interlibrary Loan.
- c. Survey of Interlibrary Loan Traffic in the Western States.

Studies were conducted concurrently in seventy-six libraries in seventeen western states and British Columbia. Academic, public and state libraries were represented. The purposes of these studies were to determine representative costs of library services in areas of potential network support, and to determine the current patterns of interlibrary loan traffic throughout the West. In addition, the cost and funding studies explored the potential impact of network services upon library costs, and the economic issues and implications of networking. The reader is directed to the list of publications in Appendix A for a complete account of the available documentation on these surveys and other products of the cost and funding studies.

This User's Manual represents the documentation of programs and use of the system of programs designed by WILCO for the analysis of data collected in the two surveys and the case studies.

1.2 Purposes of the Manual

The User's Manual is designed to assist the general public in using the programs developed for analysis of data collected in both surveys and the case studies. These programs were developed to manipulate data from questionnaires designed for the survey of costs and activity sheets used in a three-week data collection in twelve libraries -- public, academic and state. Because of the nature of surveys, it is believed that the programs and related questionnaires will be of selective research use. However, the case study data collection in three major areas of technical services -- acquisitions, cataloging, and serials -- and in interlibrary loan can be of great assistance to the library community

in assessing local costs and staffing patterns within department of a single library or for comparative studies in several libraries. For this reason, the thrust of this manual is upon the analysis of cost data within case studies. However, we have also made available to the reader specifications for call statements and use of survey programs. Due to the length of the survey subprograms (3000 statements), this program listing does not appear in the User's Manual. However, these programs will be made available upon request. For details regarding the procurement of these series of subprograms, the reader is directed to the availability statement in Appendix A.

The programs used in the analysis of the Interlibrary Loan Survey are available through the OSIRIS III (an integrated collection of computer programs for the management and analysis of social science data) of the University of Michigan. Because these programs are copyrighted, we are not able to document them in this manual. An explanation of use, description of tables, and data preparation are given here, only.

1.3 The Development of the System

This system was developed in FORTRAN IV in an IBM RJE (remote job entry) environment connected to an IBM 360/195. All input is the standard 37 character set (26 letters of the alphabet, ten numerical digits, and the decimal point). With a single format exception, the programs are written in ANS (American National Standard) FORTRAN. Output tables are based on the availability of 132 characters per line, and many of the tables use all 132 characters. Unless this line length is available, the user will find that many of the output tables will overflow and, thus, not produce results. The one format exception mentioned earlier is the use of the T (Tab) output format used to align table print outs. This is used to tab the carriage (as with a typewriter) to the desired column in which printing a line should begin. Most systems allow for the T format, and this format should not disturb the use of the programs. The user should note that each computer system has a unique JCL (job control language) and must make adaptations appropriate to the local system. In addition, the system of programs is unique to the IBM RJE environment, and must be adapted to the user's environment, as necessary. These adjustments and limitations should be discussed with a qualified programmer familiar with the computer system which the user intends to employ.

1.4 Limits of the System

The accuracy of the data and the use of the final results are at the discretion of the user. WILCO/WICHE cannot guarantee this product beyond its accuracy at the time this manual was published, and for the data on which it was initially used. The reader is reminded that these programs were developed in an IBM RJE environment, and that all JCL included in the programs are unique to the particular IBM 360/195 employed by this project.

1.5 Instruments Used in this Survey

This guide is based upon the use of ten instruments, used by WILCO during the course of these studies. They are:

FOR THE SURVEY OF COSTS IN TECHNICAL PROCESSING AND INTERLIBRARY LOAN

Form No. 2: Survey of Costs in Technical Processing and Interlibrary Loan. This form is designed to gather gross costing data within acquisitions, cataloging, serials, materials finishing and interlibrary loan. In addition, certain aspects of staffing patterns, processing support, and interlibrary loan patterns are examined.

FOR CASE STUDIES IN COSTS IN TECHNICAL PROCESSING AND INTERLIBRARY LOAN:

Form No. 3: In-Depth Case Study of Costs in Technical Processing and Interlibrary Loan. This form is an expansion of Form No. 2, above, which captures additional costing components such as facility and administrative overhead, as well as costing information necessary for the three-week data collection in technical processing and interlibrary loan to be performed during the study.

Form No. 4: Acquisitions Activity Sheet. This form is a log sheet to be maintained by each staff member performing acquisitions tasks. Kept on a daily basis, this form monitors the time spent and volume processed in 34 activities.

Form No. 5: Cataloging Activity Sheet. This is a log sheet to be kept by each staff member associated with cataloging. Maintained on a daily basis, this form monitors 22 specific activities.

Form No. 6: Serials Activity Sheet. This form is also a log sheet maintained by staff members associated with serials processing. Maintained on a daily basis, 18 specific tasks are monitored for staff time and volume processed.

Form No. 7: Interlibrary Loan Activity Sheet. This log sheet is to be kept by staff members associated with interlibrary loan. This form monitors 25 specific activities in borrowing and lending functions of ILL.

FOR THE SURVEY OF INTERLIBRARY LOAN TRAFFIC:

Form No. 8: Interlibrary Loan Borrowing Transaction Form. This is a single-page tracking document to monitor lag time, type of request, queried institution, and disposition of the request for a sample of transactions received by patrons for materials owned by another library.

Form No. 9: Interlibrary Loan Lending Transaction Form. A one-page tracking document, this monitors lag time, type of request, requesting institution, and disposition of request for a sample of transactions received from another library for materials believed to be owned by the case study library.

The user should have these instruments at hand while examining this manual. It is imperative that the format of the questionnaires be maintained for appropriate use of the programs. Certain flexibility for local modification exists in the design of the activity sheets which is detailed in following sections.

GUIDELINES TO THE USE OF THIS MANUAL

2.1 The Structure of the Manual

The manual is separated into four sections:

- General data preparation: A general guide to the user on formatting, and keypunching instructions.
- The Case Studies of Technical Processing and Interlibrary Loan: A guide to the manipulation of data from the Form #3, In-Depth Case Study in Costs in Technical Processing and Interlibrary Loan for use in specific analysis of the Activity Sheets (Forms #4 through #7), data preparation instructions, and the call statements in the main program necessary for the use of the FACT subroutine, with a description of the tables generated.
- The Survey of Costs in Technical Processing and Interlibrary Loan: An instructional guide on specific data preparation instructions for the background instruments (Forms #2 and #3), subroutine calling specifications, and a description of the tables generated.
- The Interlibrary Loan Survey: A brief description of the survey instruments, Forms #8 and #9, which were used to monitor both borrowing and lending transactions during a three-week period in 64 libraries, and a discussion of the OSIRIS packages employed and output tables generated.

The serious user should study the general data preparation instructions before using the appropriate sections of this guide relevant to his/her study.

2.2 Case Study Analysis -- the Use of Activity Sheets

The activity sheets, Forms #4 through #7, are designed for the individual cost analysis of a single library. The purpose of the form is to discern:

- Staffing characteristics of individual tasks, and functional areas (i.e., cataloging, serials, acquisitions, and interlibrary loan).
- Total direct costs and unit direct labor costs by task.
- Percentages of tasks and task costs by staff type (i.e., professional librarian, other professional, clerical, library assistants, students, other, and staff paid by other than the library).
- Allocation of departmental overhead across tasks, according to staff time.

The forms themselves may be expanded or redesigned to meet the special needs of the local library, or group of libraries under consideration. The only limits set upon such adjustment is that the expansion of any single form should not extend past fifty distinct activities. Additionally, the analyst should maintain rigorous control over the activities and conformity to the definition of activities, and the units of count employed by participating staff members. Output tables for any single functional area consist of:

Table I: Time Profile: A table indicating the number of minutes spent on each task by category of employee, the total time spent in the task by type of employee, and the percent of the total employee-type time spent in this task.

Table II: Task Time Profile: A table indicating the total task time spent by all categories of employees, the percentage of that total task time by category of employee, the volume reported (if applicable) and the resulting unit time.

Table III: Cost Profile: A table indicating the direct salary (salaries plus fringe benefits) costs by task and employee group, the total direct salary cost, the administrative task cost (which represents the administration department budget disbursed over the total library full-time equivalencies reported), the volume reported, and the resulting direct labor unit cost, administrative overhead unit cost and the total labor cost (direct labor plus administrative overhead).

Table IV: Profile of Total Task Cost: A table indicating the direct labor task cost, the administrative department overhead, the unassigned, administrative, or supervisory cost overhead, as observed during data collection, and the resulting total labor costs (including prorated cost of nonprocessing related costs and administration), and a percentage of total costs created by the supervisory or unassignable overhead and by staff category.

Obviously, then, the analysis can be expanded to other functional areas beyond technical services or interlibrary loan. The flexibility inherent in the forms and the output tables allow the user freedom in directing the analysis into other areas of library service, or in refining the activities presently employed on the forms. Application of these forms can be made upon the following types of problems within the library:

- Analysis of task costs and staff time spent in either a few tasks or an entire library.
- Examination of tasks expected to change with the introduction of new services, as comparative data for similar examination after the introduction of a new service.
- Analysis of staffing in areas of library service.

The adaptation to local situations allows the analyst to use the programs to assess local costs, staffing, etc. in any area and to any degree needed to meet the local situation. During the studies of individual libraries for this project, a three-week interval was selected for examination. The length of time is, of course, a local option. In situations where the throughput or staffing requirements fluctuate greatly over a period of time, it is recommended that data collection extend either over a longer period of time, or during several intervals at different times throughout the year, or at intervals over wide ranges of time (e.g. several days a week over a two-month period). Similarly, if throughput and staffing are stable, the need to collect data over a three-week period is diminished. However, the analyst should be aware that it is often helpful to those collecting data to have a training period for trial of the forms. This enables staff members to adjust to the definitions of tasks and methods of data collection.

The reader is directed to Section 4 for a full account of the programs used in the case studies of costs in technical services and interlibrary loan.

2.3 Survey of Costs -- Use and Analysis

As mentioned earlier, the survey format described in section 5, Analysis of Survey Data, may not be of general use to the user unless a similar survey is conducted. The purposes of the survey were to detect average expenditures and ranges across several functions and across a broad range of libraries. The survey is based upon a random sample stratified into type and size of libraries. Our survey employed the following strata:

Academic Libraries

- Large (over 960,000 volumes in holdings)
- Other (less than 960,000 volumes in holdings)

Public Libraries

Large (over 820,000 volumes)
 Regional (less than 820,000 volumes and serving a group
 of independent libraries within two or more counties)
 Other (less than 820,000 volumes)

State Libraries

These six strata comprise the groupings into which survey results were presented. Programs used in analysis of the survey data were designed to handle thirty libraries in each stratum, for a total of 180 libraries. The user of the survey programs may find the strata designations inappropriate to the needs of data analysis he/she wishes to perform. However, these designations may be useful as a segregation of data, or for instance, where survey participants exceed thirty libraries (the maximum limit of libraries which can be handled in analysis of a single stratum). Also, the reader should be aware that headings employed in the tables reflect the classification of strata used in this survey. (i.e., Large Academic Libraries, Other Academic Libraries, Large Public Libraries, etc.). Format and print statements would necessarily have to be adjusted by the user if strata titles were inappropriate for his/her needs. The reader is advised that these strata definitions are also used to encode certain data from the questionnaire. In encoding data for the interlibrary loan section of both questionnaires, Form #2 and Form #3, major lender and borrower information (the final page of the questionnaire) was encoded to reflect whether these libraries were large academic, other academic, large public, regionals, other publics or state libraries. These designations conform to the definitions used for the strata.

A description of the tables and sample tables appear in appendix E. There are 32 tables generated from the cost survey program. As mentioned earlier, the subprograms represent about 3000 statements. For this reason, only call statements, data preparation and output tables can be included here. Appendix A includes an availability statement of the full program including subroutines.

2.4 Interlibrary Loan Survey

The purpose of the interlibrary loan survey was to determine the traffic and characteristics of borrowing and lending transactions throughout the western states. The use of the OSIRIS programs allowed for univariate and bivariate analysis of the data. The programs are especially useful in discerning the types of materials most often requested and lent. For the individual library, it can be a valuable

tool in monitoring the usefulness of a bibliographic center, in monitoring lag times through certain lending institutions, and as a guide to possible areas of collection development. For several libraries, it can assist in the assessment of regional interlibrary loan services and networking, as well as monitoring the level of self-sufficiency within the region. The interlibrary loan forms are a part of the public domain, and can be used by any individual interested in studying interlibrary loan traffic. The programs used, however, are copyrighted by the University of Michigan and we are not privileged to make these available to the reader. However, both the OSIRIS programs which we used in our analysis and the canned packages of others, such as SPSS, are available through a variety of sources which the reader may wish to investigate.

Our survey of interlibrary loan was based upon equal interval sampling dependent upon the expected interlibrary loan volume. During a three-week period borrowing or lending requests were tagged for inclusion in the sample at intervals of one, three, five, ten or twenty (depending upon the interval established for the participating library). During analysis, these observations (i.e., completed forms) were weighted according to the interval employed (e.g., if every third request were tagged, the weight by which these observations were multiplied was 3).

GENERAL DATA PREPARATION INSTRUCTIONS

3.1 Introduction

All ten forms described in Section 1.5 of this manual have been coded to allow most data to be punched directly from the form. This eliminates the need for recoding or encoding all data from the book or sheet to a coding form of some variety. Due to the complicated nature of the two background instruments (forms #2 and 3), some coding is necessary, and these necessary adaptations to the form are explained in following sections of this Manual.

The user should keep in mind that bad data input to any mathematical computation is compounded during that computation, and thus the user should endeavor to maintain a reasonable level of accuracy. Appendix D contains selected samples of correctly punched data from all the ten instruments.

3.2 The Character Set

For all ten forms, the character set includes the following:

- *the numbers 0 through 9
- *the decimal point "."
- *the alphabetic characters A through Z
- *the minus sign, "-"

There are no other characters used; no parentheses, no percent signs, no dollar signs, no commas. The minus sign is used only as a flag in two special circumstances, described in 4.3.

3.3 Card and Column Numbers

The user will, in looking over the data collection instruments, have noticed that there are numbers in parentheses, such as (C1) and (C57) and (38), (14, 15) and (21 -30) appearing in the right margin of the background forms and under page/column headings in both the background forms and the activity sheets. These numbers are generally smaller in size than the characters in the body of the form. Numbers preceded by "C", and enclosed in parentheses, are found only in the two background forms; these refer to the card number, and range from 1 to 77. The numerical entries in parentheses, e.g., (14,15), are found on all forms and are used to denote the column numbers of an 80 column punched card in which these data are to be punched. These numbers, between 11 and 80, may be for a single column, e.g. (36), or (16,17), to indicate two columns, or (31-40) to indicate all columns between, and including, 31 and 40. These column numbers are normally marked (or printed) on the face of computer punch cards. Again, the user is reminded that there are some adjustments to the background instruments (Forms #2 and 3) that must be made before the instrument is

ready to be keypunched. Where adjustments are necessary, these changes will be noted in the following sections of this manual. For specific instructions concerning the activity sheets, see Section 4; for the cost survey, see Section 5; and, for the interlibrary loan survey, see Section 6.

3.4 Placement of Numeric Data

All numeric data are to be right justified in the field specified for it. That is, if the field length is 5, e.g., (15-19), the number 134 must be entered as ~~0~~134 where ~~0~~ indicates a blank. In this case, the number entered as ~~0~~134~~0~~ would be read by the computer as 1340. In general, the right most digit must be in the right most columns of the allocated field (i.e., column designated for the entry).

3.5 Special Questions

There are two types of questions that do not require numeric data within the questionnaire, but must be encoded (assigned a numerical coding) for input requirements: (1) those that are to be answered with a yes or a no and (2) those where the user/librarian is required to check statements which are true or describe his/her situation. For those that require a yes/no answer (e.g., "Do you like your hot fudge sundaes with a cherry on top? yes___, no___"), the response is coded and then punched as follows:

<u>Code</u>	<u>Response</u>
1	yes or positive response
2	no or negative response
3	sometimes, maybe, only on Sundays, i.e., a qualified response
0	blank or no response at all

The following example illustrates the coding the second type of question, i.e. those that require checking a true statement:

Please indicate below those qualities that apply to you.

I am charming	()
I am witty	()
I am beautiful	()
I am handsome	()
All of the above	()

The user should code these responses as follows:

1	for those items checked
0	for those items left blank.

3.6 Reserved Columns

On all ten forms, the first ten columns of input punched cards are reserved for either data, card, form, or page identification. Some columns are for the user who might wish to review (or verify) the data; other information in these columns is necessary for the computer to search and verify that the system has the correct card of data for processing; and, of course, some information is explanatory of identification for both the user and the system.

The identification columns common to all forms and all cards are as follows:

<u>Col #</u>	<u>Explanation</u>
1	Form # (2,3,4,5,6,7,8,9)
2-6	used differently for different forms (refer to section 4 for activity sheets, section 5 for cost survey, and section 6 for the interlibrary loan survey)
7,8,9	library number (this cannot be zero) as described below
10	unique for different types of forms (refer to specific sections following)

The library number, placed in reserved columns 7-9, cannot be zero. The user may use a "dummy" number, or employ the number to indicate stratification and identification when analyzing data from several libraries. For our use of the library number as identification, the reader is directed to section 5.

ANALYSIS OF THE ACTIVITY SHEETS: THE FACT SUBROUTINE

4.1 Introduction

This section describes the generation of the time and cost profiles (activity sheet summaries, Tables I through IV) exhibited in Appendix F. The information required for these analyses is derived from staff lists (pages 7 through 12) of the case study background instrument and the set of activity sheets (form numbers 4, 5, 6, and 7). In addition, the generation of employee hourly cost lists is discussed. Sample hourly cost lists cannot be reproduced in this report due to the confidential nature of the information.

The subroutine used to produce time and cost profile tables is called FACT. It has been designed as an all purpose unit capable of analyzing any set of not more than 50 unique tasks, performed by a set of not more than 50 distinct staff members. Although, for the purposes of this study, the subroutine was employed to analyze data gathered in acquisitions, cataloging, serials, and interlibrary loan, the subroutine can also be used for analysis of reference, circulation, or any functional area within the library, within the limits stated above.

In addition, one task can be allocated for administrative tasks, breaks, lost time, peer consultation, and so forth. We employed this task designation in all areas, for example, task number 31 on the acquisitions activity sheet (form #4). If the user is designing his/her own activity list, it may be beneficial to include such a task. The system will distribute the total cost of this task to all other tasks under consideration in the Summary Table IV. This is optional, and may be omitted with no adverse effect on the running of the subroutine. The subroutine FACT is listed in Appendix H. The following subsections are intended to instruct the user in the preparation of input, the requirements of the main program and call statements, and the specifications of the deck set-up.

4.2 Data Required for the Subroutine FACT

There are three groups of input data required for the use of the FACT subroutine. They are (in order of input):

- the paid days off, fringe benefits, and sabbaticals (pages 11 and 12 of form #3)
- the staff list (not to exceed 50 employees for any functional area, e.g., cataloging), formatted as Form #3 page 10 if the user is using his/her own list of tasks and staff; otherwise from pages 7-10 of form #3.
- the set of activity sheet tasks (not more than 50 separate tasks) including a header/description card for the set of activity sheets.

All data are punched on 80 column cards and read into the subroutine from those cards. As explained in Section 3, the general data preparation instructions, the first 10 columns are reserved for identification for both the user and the computer system. As a reminder, column 1 is for the form #, columns 7, 8 and 9 are for the library number which will be printed on all output and must not be zero. All data placed in numeric fields must be right justified.

4.3 Calculation of Fringe Benefits.

Fringe benefits are considered to be any benefit which a library employee receives from the library or parent organization for which he or she does not pay. These benefits include vacation, sick leave, and sabbaticals.

This information has been requested on pages 11 and 12 of form #3, the background information for the case study libraries. The following section explains how this information must be prepared for input to the FACT subroutine. See Table 4-1.

Table 4-1. Preparation of Card Numbers 1-4: Paid Days-Off and Fringe Benefits.

<u>Col #</u>	<u>Explanation</u>
1	form # (in this case 3)
2,3	page number from which the information is punched (in this case, 11)
4,5	blank
6	card number (1, 2, 3 or 4)
7, 8, 9	library number
10	blank
11-15	information pertaining to professional librarians, classification a
16-20	information pertaining to other professionals, classification b
21-25	information pertaining to library assistants, classification c
26-30	information pertaining to library clerks, classification d
31-35	information pertaining to student assistants or pages, classification e
36-40	information pertaining to other types of library employee, classification f
41-45	information pertaining to staff members paid by out-of-library sources, classification g

3110009000000100001000020000150002500020 (the remaining columns are blank)

The "5" in fields allocated for the library assistant (columns 14-15), clerk (columns 19-20), other type of employee (columns 29-30), and staff paid by outside sources information (columns 24-25) are flags to the program to prepare for additional cards on incremental vacation for these types of employee. For each flag indicated on card #3, there would be an additional card of the second type immediately following card #3 indicating the days of annual vacation granted and the upper limit of years employed for which this amount of vacation is given. Cards of the second type must be punched to include three increments. That is, if only two increments are granted over employment, the second increment should be repeated in columns 31 through 40. Nor does the system allow for more than three increments. There must be one card of this second type for each employee classification for which the -5 flag has been entered in the first card. These cards must be in order of classification. That is, the card indicating incremental vacation for library assistants would precede that for clerks, which would precede the card for other employees, and so forth. The information on this second card type beyond the first 10 identification columns is indicated in Table 4-2. The subroutine also allows for similar increments in sick leave. The minus flag for incremental sick leave is -3. This would be punched exactly as indicated in this example for the -5 flag. The format of the second type of card is the same, and there must be a card of the second type for each classification field for which the minus flag is entered in card 1.

The user should be aware of the fact that incremental sick leave and/or vacation may apply to all, and vary with, classifications of employee. If the library has no incremental vacation or sick leave plan (i.e., if all employees receive the same number of days of paid vacation or sick leave regardless of the number of years employed by the library), these annual data are punched in the same format as the paid sick leave and number of paid holidays cards in examples #1 and #2.

Example 4. Card #4, Fringe Benefit Rate (page 11, Form #3).

In this example, library number 900 provides an average of 13% of salary for fringe benefits to all employees, except student assistants who receive 6% of salary in fringe benefits. This would be punched as follows:

312664900000013000130001300013000060001300013 (the remaining columns
are blank)

Table 4-2. Specifications for Cards on Incremental Sick Leave or Vacation.

<u>Col #</u>	<u>Explanation</u>
11-15	upper limit of years employed by library to qualify for the first increment of paid vacation (or sick leave)
16-20	first increment of paid vacation (or sick leave)
21-25	upper limit of years employed by the library to qualify for the second increment of paid vacation (or sick leave)
26-30	second increment of paid vacation (or sick leave)
31-35	final limit on paid vacation (or sick leave) or maximum number of years employed by the library. The system will select the corresponding increment of paid vacation (or sick leave) for all employees employed by the library for more than the upper limit entered into columns 21-25. However, this field must <u>not</u> be zero.
36-40	final increment of paid vacation, that is, the maximum number of days of paid vacation (or sick leave).

The final card of fringe benefit information is on sabbatical plans that the library may have. This is requested on page 13 of the background survey instrument. This card may not be all blank. The following table shows the format of the card on sabbaticals.

Table 4-3. Sabbaticals

<u>Col #</u>	<u>Explanation</u>
1	form # (in this case, 3)
2,3	page number (in this case, 12)
4,5	blank
6	card number <u>5</u>
7, 8, 9	library number
10-14	blank
15	response to question 26. If the response is no, a 2 is punched in this column and the rest of the card is left blank. If the response is yes, a 1 is punched in this column, and the other information must be entered as follows.
16-19	blank
20	response to question 27, the classification of those employees receiving sabbatical benefits
21-25	response to question 29, the length of the paid sabbatical in whole months at full pay
26-30	response to question 28, interval at which a qualified employee becomes eligible for sabbatical in number of whole years.

The following example displays a correctly punched card #5.

Example 5. Card #5, Sabbatical (From page 12, Form #3).

This example represents library number 900, which allows an eight-month sabbatical to professional librarians every ten years. Card #5 would be punched as follows:

/ 312~~00~~5900~~000000~~1~~0000~~1~~0000~~8~~000~~10 (remaining columns are blank)

Note that the eight months are calculated at full pay in this example, and that, if the library had given eight months at half pay, a 4 for the number of whole months would have been entered in column 25 to represent sabbatical pay.

4.4 Preparing the Staff Lists for the FACT Subroutine

The staff lists are found on pages 7 through 10 of the background data form for the case studies (Form #3). If the user has provided his/her own set of activity sheets, merely use the format of one of these pages for the staff list. As with all other forms and data, the first 10 columns are reserved for identification useful and necessary to both the user and the computer. The column reservations are as follows:

<u>Col #</u>	<u>Explanation</u>
1	Form #, in this case a 3
2,3	page number, either 7, 8, 9, 10
4, 5, 6	blanks
7, 8, 9,	library number, <u>not</u> a zero
10	blank

Note that the columns into which the data are punched are the columns (field) specified at the top of the page under the column headings (e.g., (11-15) for employee ID number, (20) for type of employee, (21-30) for annual salary and so forth). There is one column change; under i, the employee's supervisor's identification may take up to 5 columns (i.e., columns 46-50 instead of only the specified columns 49 and 50). All data on salary should be right justified in the appropriate field. The hourly wage may be punched as a real number (e.g., \$2.33 per hour should be punched as 02.33 in columns 31-35). All other information is to be punched as right justified integers. Refer to Appendix B for a definition of right justified. The employee classification (professional librarian, other professional, etc.) should be punched as an integer (1-8) corresponding to the Alpha character (A-H) that is used to designate the grouping. That is, 1 represents A, 2 represents B, etc. The employee's identification and that of his/her supervisor may be punched as Alpha characters. Note that while A B and AB and A.B. may mean the same employee, the computer will read these designations as different employees. After the analyst has designated the employee identification, this identification must be used precisely and consistently for the activity sheets and all other references to that employee. Note that for the purposes of employee identification, the same guideline applies equally to numeric identification (e.g., 001 is not the same as 001).

Examples of correctly punched cards for staff lists follow:

Example 6. Salaried employee working in two departments under study.

An employee, library assistant (category c), with an identification designation of A, is employed in Library number 900, earns \$9000 annually, and works approximately twenty hours per week in acquisitions, and twenty hours per week in cataloging. This employee would have the following two cards punched, where he/she works a full twelve-month year and his/her supervisor has the identification designator, S.

/307bbb900bbbbbAbbbbCbbbb9000bbbbb2040bbbbb5bbbbbS

```
/308bb900bbbbbAbbbbCbbbb9000bbbbb2040bbbb5bbbs
```

Note that if this employee had worked twenty hours in acquisitions, and twenty hours in circulation (i.e. an area not being studied), only the first card would have been punched for input.

Example 7. Hourly employee working in one department under study.

In this case, a page earning \$2.67 per hour at library number 900 has the Id., B, and works full time in interlibrary loan. He or she would have one card punched as follows, where his/her supervisor is #T.

/31066900666666E6666666666662.67640406666636666T

4.5 Preparing the Activity Sheets for the FACT Subroutine.

An activity sheet is basically a list of tasks numbered from 1 to N (where N is a number less than or equal to 50). Each set of activity task cards (i.e., those cards punched from one set of activity sheets) must have a header card containing the information on the Table 4.4. (The * indicates that this is not optional, and must be included, not blank or zero).

Table 4-4. Description of the Header Card.

<u>Col #</u>	<u>Explanation</u>
1-8	* eight alphanumeric characters to describe the set of activity sheets, e.g., ACQ for acquisitions. This identifier will be printed on the output tables.
12,13	* total number of tasks to be listed (not more than 50)
17,18	the number of the administrative type task, to be distributed over all other tasks (may be omitted)
19-28	the administrative department budget, the cost of which is also distributed over all other tasks according to the task time (may be omitted)
29-34	the total library FTE (used for distributing the administrative department costs equitably over all other departments of the library) This may be omitted.

Example 8. Header Card.

A set of acquisitions activity sheets could have the following header card.

ACQ~~#####~~37~~#####~~31~~#####~~15000~~#####~~22.5 (rest of card blank)

WHERE

ACQ implies acquisitions and the ACQ will be printed as part of the output header

37 is the maximum number of tasks listed in this case, including those tasks listed under "other" by employees

31 is the administrative task number, the cost of which is to be distributed over the other tasks

15000 is the administrative department budget

22.5 is the total library FTE

The activity sheets themselves are easy to prepare. The following table shows the columns and the necessary information for columns 1-10. These are the identification numbers, the remainder are data, and are noted on the form. Cards only need be punched for tasks in which time data has been entered by the employee.

Table 4-5. Description of Activity Sheet Task Cards

<u>Col #</u>	<u>Explanation</u>
1	form # (either 4, 5, 6, or 7)
2-6	blank
7, 8, 9	library number (must <u>not</u> be zero)
10	blank
11-15	the employee's identification (<u>must</u> be identical to that used in the employee lists, pages 7 through 10)
19,20	the task number (which must be less than or equal to 50). The user need only punch cards for those tasks where there is time entered.
21-25	the time spent on this task in whole minutes
26-30	the volume processed (e.g., number of cards alphabetized or filed). If no data are supplied, these columns may be blanks.

The deck of activity task cards must end with a blank card, to signal the end of the deck. There is no order requirement within the deck itself (that is, task cards do not have to follow in sequence of task number or employee number).

4.6 Using the FACT Subroutine

Once data preparation is complete, two program statements within the calling program must be prepared to specify the library number (LIB), and the number of employees in the staff list (NOEMP). Since this is a FORTRAN program, the user is reminded that all statements within the main program and subroutines must begin in column 7. The two cards are equivalence (i.e., "equal") statements. For example, library number 900, with 43 employees, would have the following two cards in the calling program:

```
LIB=900
```

```
NOEMP=43
```

The next card to be prepared is the call to the subroutine FACT. This call statement is:

```
CALL FACT(LIB,NOEMP)
```

And then, as with all FORTRAN programs, a final card is necessary to tell the computer that it has completed the job:

```
END
```

This is followed by the three sets of data (i.e., fringe benefit cards, staff lists, activity task cards) punched according to the specifications indicated in the previous four subsections. Additionally, the user must prepare and arrange the job cards appropriate to his/her installation, and according to correct keypunch specifications. The results of this program, subroutine and input are an employee hourly cost list and those tables I through IV, exhibited in appendix F.

It is possible to run more than one set of activity task cards at a time. Due to the possible multiple requirements of this situation, there are three other entry points (i.e., three other ways to call) the subroutine FACT.

The entry points and their uses and output are as follows:

FACT runs the entire subprogram, using all the information on pages 11 and 12, the staff lists and the activity sheets, producing the list of hourly staff cost and the time and cost profiles.

FACT1 uses only the information on pages 11 and 12 and the staff list to produce only the hourly cost list.

FACT2 after FACT or FACT1 has been run, uses previous information from pages 11 and 12 and a new staff list and a new activity sheet deck to produce both the hourly cost list and the time and cost profiles.

FACT3 after FACT or FACT1 or FACT2 has been run, uses previous information from pages 11 and 12, previous staff list, and a new activity sheet deck to produce a new set of time and cost profiles.

Example 9. Calling Sequence

Library number 800 has a total of 45 employees working in combined acquisitions, cataloging and serial sections, and another 9 in interlibrary loan. So the calling sequence to produce hourly cost list, and time and cost profiles from the activity sheets for all departments, and all employees would be as follows:

LIB = 800

NOEMP = 45

CALL FACT (LIB, NOEMP) (runs the first set of activity sheets, i.e., acquisitions)

CALL FACT3 (LIB, NOEMP) (these last two run the second and third set of activity sheets, i.e., cataloging

CALL FACT3 (LIB, NOEMP) and serials, using the same list of employees)

NOEMP = 9

CALL FACT2 (LIB, NOEMP) (uses new employee list to run the final set of activity sheets, i.e., interlibrary loan)

END

For this example, the data deck would be set up in the following order:

1. cards 1-5 from pages 11 and 12, in order, holidays, sick leave, vacation (including one card for each group of employees that receives incremental sick leave or vacation as in the punching instructions section 4.3), fringe benefits, sabbatical;

2. the employee staff list, including identifications for all the employees completing activity sheets in acquisitions, cataloging and serials. (The program will stop if it can't match the employee's ID from the activity sheets with one in the staff list.);
3. activity sheet identification card for acquisitions (as described in Section 4.5, Table 4-3);
4. the deck punched from the activity sheets for the acquisitions department (i.e., acquisitions activity sheet deck), as described in Table 4-4;
5. a blank card. This is to signal the end of the activity sheets. (The program then summarizes and writes the time and cost profiles for acquisitions.);
6. activity sheet identifier for cataloging (as described in Table 4-3.);
7. cataloging activity sheet deck (as described in Table 4-4.);
8. blank card;
9. serials activity sheet identifier card (as described in Table 4-3.);
10. serials activity sheet deck (as described in Table 4-4.);
11. blank card;
12. the nine employee cards for the interlibrary loan department (as described in section 4.4);
13. interlibrary loan activity sheet identifier (as described in Table 4-3.);
14. interlibrary loan activity sheet deck (as described in Table 4-4.); and
15. blank card.

Refer to Appendix H for a listing of the FACT subroutine.

Refer to Appendix G for deck set-up examples for this program.

4.7 Fatal and Non-Fatal Errors

In producing the sets of tables there are three possible fatal errors. The first and second are related to incorrect count of the number of staff list cards. If NOEMP is less than the number of employee cards, the program will stop with no written message. If NOEMP is greater than the number of employee cards, the program will stop in that it has tried to process the activity sheet identifier card

with alpha characters where it expected to see only numerics. The third is the most prevalent and also the most difficult to find, and that is, if the program is unable to match a member of the listed staff with the one that filled out the activity sheet. In this case the program stops with a STOP 55 in the system as a message.

The other error that may be encountered is a blank card or a zero in the activity sheet task time (columns 24,25). This will cause the program to end before the end of the data with no message to that effect.

ANALYSIS OF THE SURVEY DATA

5.1 Introduction

The data analyzed with the system of subroutines described in this section are derived from the two background instruments:

- Form #2, The Survey of Costs in Technical Processing and Interlibrary Loan, and
- Form #3, In-depth Case Studies of Costs in Technical Processing and Interlibrary Loan.

The system of subroutines to produce the output summary tables described and exhibited in Appendix E is accessed or called with a short Fortran program. There is a single control subroutine for each set of tables plus a basic statistics subroutine to provide the weighted mean (average), high and low observations, and the weighted standard deviation. These tables are generated from an array of not more than 30 data points (i.e., observations for a single table element) and their respective weights. Due to the complicated format structure of the instruments themselves, there is a single subroutine to search the data set (the set of all survey data from every library in the survey) stored on tape or disk and retrieve the appropriate card image or images for processing in each of the respective tables. By personal preference, the main control program and each of the control subroutines have associated with them a dictionary of words used in column headings and line labels and associated subroutines to access these dictionaries.

5.2 The Survey Data Set

The survey data set consists of 80 column card images punched or prepared from the survey instruments. These cards are numbered 1 through 77. This data set is written on a tape or disk rather than being used as card input to allow for multiple searches of the data set. The in-depth case study instrument (Form #3) is an expansion of the survey instrument (Form #2) and both Forms #2 and #3 are identically coded for keypunching responses to survey questions in which the information coincides.

The system assumes that the data present on tape or disk are correct; that all cases/libraries contain exactly 77 cards; and that all cards are in numerical order.

5.3 Stratification of Libraries for the Purposes of this Survey

For purposes of this survey, the libraries responding were divided into groups or strata according to size and type, to avoid comparing doughnuts to doughnut holes. The libraries were then numbered

according to the group to which they were assigned. The keypunching format allocates 3 digits or columns to the library number, the first of which was used to distinguish the strata of libraries. The other two columns were unique to each library and used to identify a single library.

For example, library number 308 is different from library number 305, although both belong to the same grouping or stratum. There is no internal checking on size and/or type. The digit designating stratum is there to expedite the searching process, as the tables are generated for only one stratum at a time. All other numbers are ignored during the data set search.

The following table is a list of the codes used for stratum identification. This initial digit also indicates to the computer the appropriate heading that will be used in printing the summary tables:

<u>Stratum Identification Number</u>	<u>Library Stratum</u>
	large academic libraries, holding more than 960,000 volumes
1	state libraries
2	large public libraries, holding more than 800,000 volumes
3	other regional libraries, those public libraries holding less than 800,000 volumes and offering at least one type of regional service to libraries in at least two counties
4	other academic libraries, those holding less than 960,000 volumes
5	other public libraries, those public libraries not included in either large public or other regional grouping, and holding more than 3000 volumes.

In addition to specifying to the computer output headings and strata, these codes were used in encoding types of libraries lending and borrowing from participating libraries (see page 24 of Form #2 and page 34 of Form #3) which are summarized and printed in Tables X-G and X-H, frequency of borrowers and lenders tables. The user can change these definitions to fit his/her own situation, keeping in mind the headings generated and that he/she should be consistent throughout the analysis of the survey data.

5.4 Reserved Columns

For identification of the data contained on the card by both the user and the computer, the first 10 columns have been reserved as follows:

<u>Col #</u>	<u>Explanation</u>
1	form # (either a 2 or a 3)
2,3	page number (found in the upper right hand corner of each page, 1 through 26 for Form #2 and 1 through 35 for Form #3)
4,5	card number (1 through 77, noted with a "(C_)" in the right margin.) Only the digits are punched. Do not include "C".
6	blank
7,8,9	library number (with the first column, i.e., column 7, the stratification digit as explained in the previous section)
10	flag digit for the budget pages (that is, 14 and 15 of the survey Form #2, and 22 and 23 of the case study Form #3), or blank for all other cards.

5.5 Alterations to the Coded Key punching Format

The expanded case study Form #3 is coded for key punching exactly as the survey instrument Form #2. There are exceptions, however. In two sections the case study information does not correspond exactly with the survey information. Conversion requirements for Form #3 are discussed in Section 5.6.

The user should be aware of a problem arising from the processing of survey data, which may occur. There are three potential responses within the questionnaire which may exceed the allocated field length (e.g., the response is 100 and the field length allowed for only two digits). In these, as in any other cases of possible overflow, the user should enter a 9 in each of the columns in the allocated field (e.g., where two columns are allowed, enter 99). The system in these cases notes that true data exceeds the field (i.e., large data) and if possible and applicable corrects by adding the 1 (e.g., 99 becomes 100). These three exceptions to data input are noted in the following table. This table documents necessary changes to the coded key punching format which appears in Forms #2 and #3.

Table 5-1. Alterations to Coded Keypunching Format

Page Number Form #2	Form #3	Explanation (question number, line number, and identification changes to be made, or codes to be employed)
1	1	<u>question iii, card 1, columns 29-33</u> 1 for calendar year (columns 30-33 blank). 2 mm nn (29-33) for fiscal year with mm beginning month, nn ending month. For example, fiscal year July 1 to June 30 would be coded 20706.
4	5	<u>estimated title to volume ratio.</u> Data should be placed on (CII). Cols 41-45 estimated titles Cols 46-50 estimated volumes. For example, 2 volumes per title or 1 title per two volumes would be punched as 1 in col 45, and 2 in col 50.
4	5	<u>question I, union catalog or union list.</u> Each positive response (bookstock, periodical, other) is allocated 2 columns. If the item is checked (i.e., a positive response) a 1 should be punched in the first specified column of the field; and in the second column, a 1 if the union catalog is computer produced, or a 2 if not computer produced.
7	13	<u>cards 28 and 29, staff.</u> Circumstances necessitated complete renumbering of the specified columns (fields) for responses on this page. Refer to Exhibit 5-1 for the renumbered edition. These data from Form #3 (page 13) must be transcribed from more than one page. Refer to section 5.6 on the conversion of case study data to the survey instrument format.
8-11	14-17	<u>cards 30 through 44, support services.</u> This was an area of possible extra large data (i.e., data which overflows the specified field). See introductory paragraphs of section 5.5 for general instructions on the use of the 9 fill in these cases. The system does <u>not</u> correct internally for a 99999 entry in these cases.
8-11	14-17	For those items where the function is checked (i.e., support services purchased) but no data on volume or cost is available, the code, -1, in the volume column will indicate a positive response (i.e., checked function).

Page Number Form #2 Form #3	Explanation
11 17	<u>question G, card 44, columns 37-44, support systems.</u> Codes employed are: For in-house development, a 1 should be punched in the appropriate column; for contracted development, a 2 should be punched in the appropriate column.
12 18	<u>question H, computer systems.</u> The single column indicated after "System name" is a single digit to indicate the system function (i.e., the area of support). The codes employed are: 1 Circulation 2 Acquisitions 3 Interlibrary Loan 4 Serials 5 Inventory Control 6 Cataloging 7 Processing 8 Accounting 9 Other
12 18	<u>question L, system maintenance.</u> If more than one organization is responsible for system maintenance, use additional columns. That is, note the first organization cited in column 68, the second in column 69, and so on to the end of the card, if necessary. Note that the entry in each column would correspond to the number associated with the organization (i.e., 1 indicates the library, 2 indicates the parent organization, etc.) which maintains the system.
14-15 22-23	<u>Library Budget.</u> For these two pages, column 10 is used as a flag to indicate library structure. For the first card (48 or 56) of each page, a 1 punched in column 10 indicates that the capital budget includes funds for a new building; a 2 indicates that the figure listed in bookstock budget (or expenditures) is the total materials budget. Column 10 of the operating budget (cards 49 and 57) should be encoded as follows:

Page Number
Form #2 Form #3

Explanation

14-15 cont'd	22-23 cont'd	<p>1 indicates that the library only has a technical processing department without a separate acquisitions or cataloging department; in general only Administration and Interlibrary Loan can be considered in departmental analyses.</p> <p>2 indicates that only Administration budget data can be considered relatively accurate; other departmental data are unavailable, or combined (as in technical service departments).</p>
16	24	<p><u>question D, regional libraries.</u> This is the second place in the questionnaire where there can be a possible data overflow. See general instructions for use of the 9 fill. The system will <u>not</u> correct 99 entries internally.</p>
18	26	<p><u>question G4, union catalog additions.</u> Change columns from (29-33) to (29-35).</p>
19	27	<p><u>question G5, union catalog locations.</u> Change columns from (34-35) to (36-45).</p>
20	27	<p><u>questions H15-H17, stipends for regional service.</u> In the frequent case, where all support (i.e., 100%) is from a single source, enter a 99 in the appropriate columns; the system adds 1% when <u>both</u> 99% <u>and</u> only a single source of support are indicated.</p>
22	31	<p><u>question F, number of libraries queried.</u> Punch the number (1 through 9) corresponding to the interval checked, (e.g., 4 would be punched if the interval 2.5-2.9 were checked).</p>
24	34	<p><u>card 77, frequent borrowers and lenders.</u> The column numbers, 71-74, for card 76 are ignored. Instead, a new card is begun for this page. Exhibit 5-2 shows the coding form. Each borrowing or source library is identified with a two-digit code where the first is library type and the second digit indicates the location of the library relative to the location of the respondent (i.e., the library completing the form). The codes are as follows:</p>

Library Type

- 1 Large Academic Library
- 2 State Library
- 3 Large Public Library
- 4 Other Regional Library
- 5 Other Academic Library
- 6 Other Public Library
- 7 Bibliographic Center
- 8 Special Library (medical, law, etc.)
- 9 Other Library (private, industrial, etc.)

LOCATION (RELATIVE TO THE RESPONDING LIBRARY)

- 1 Local (a location within certain bounds of proximity that the library considers "close-by", based upon turnaround and ease of access, and as specified by the respondent in the interlibrary loan section, question A, page 22 of Form #2, or page 31 of Form #3)
- 2 In-State
- 3 Adjoining State
- 4 Other Western States
- 5 Eastern States (or foreign countries, excluding Canada)

See Exhibit 5-2 for coding format. Refer to section 5.3 for definitions of the types and sizes of libraries.

III. STAFF (CONT'D)

EXHIBIT 5-1

I. PLEASE INDICATE BELOW THE STAFF BENEFIT RATE (PERCENT OF SALARY) GIVEN TO EMPLOYEES IN EACH OF THE FOLLOWING CATEGORIES: (c28)

- | | | |
|--|---------|---------|
| 1. Professional librarian | _____ % | (11-14) |
| 2. Other professional | _____ % | (15-18) |
| 3. Library assistant | _____ % | (19-22) |
| 4. Clerks | _____ % | (23-26) |
| 5. Student assistant/page | _____ % | (27-30) |
| 6. Other (excluding staff involved in plant maintenance) | _____ % | (31-34) |

J. PLEASE INDICATE BELOW THE FULL-TIME EQUIVALENCIES (FTE) PRESENTLY EMPLOYED IN YOUR LIBRARY IN THE FOLLOWING FUNCTIONS OR POSITIONS:

- | | | |
|---|-------|---------|
| 1. Business and financial staff (excluding book fund bookkeepers) | _____ | (35-38) |
| 2. Book fund bookkeepers | _____ | (39-42) |
| 3. Library planning | _____ | (43-46) |
| 4. Library fund raising | _____ | (47-50) |
| 5. Systems analysts | _____ | (51-54) |
| 6. Programmers | _____ | (55-58) |

K. PLEASE INDICATE THE AVERAGE SALARY INCREASES GIVEN DURING THE FOLLOWING YEARS BY CATEGORIES OF EMPLOYEE. THIS SHOULD REPRESENT THE COMBINED PERCENTAGE INCREASES OF MERIT AND COST-OF-LIVING INCREASES. PROMOTIONAL INCREASES GIVEN TO EMPLOYEES MOVING INTO NEW POSITIONS SHOULD NOT BE INCLUDED. (c29)

TYPE OF EMPLOYEE	K. 1974	L. 1975	M. 1976 (est.)
1. Professional librarian	_____ % (11-13)	_____ % (14-16)	_____ % (17-19)
2. Other professional	_____ % (20-22)	_____ % (23-25)	_____ % (26-28)
3. Library assistants	_____ % (29-31)	_____ % (32-34)	_____ % (35-37)
4. Clerks	_____ % (38-40)	_____ % (41-43)	_____ % (44-46)
5. Student assistant/page	_____ % (47-49)	_____ % (50-52)	_____ % (53-55)
6. Other(excluding staff involved in plant maintenance)	_____ % (56-58)	_____ % (59-61)	_____ % (62-64)

Initials _____

W. PLEASE INDICATE BELOW INSTITUTIONS (INCLUDING BIBLIOGRAPHICAL CENTERS) WHICH MOST FREQUENTLY REQUEST MATERIALS FROM YOUR LIBRARY. RANK ACCORDING TO THE NUMBER OF REQUESTS MADE ANNUALLY, IF POSSIBLE. INDICATE THE NUMBER OF REQUESTS RECEIVED BY YOUR LIBRARY FROM THIS LIBRARY OR CENTER DURING THE LAST REPORTING YEAR, IF THIS STATISTIC IS AVAILABLE.

LIBRARY NAME	LOCATION	NUMBER OF REQUESTS RECEIVED LAST YEAR	(c77)
1. _____	_____	_____	_____(11,12)
2. _____	_____	_____	_____(13,14)
3. _____	_____	_____	_____(15,16)
4. _____	_____	_____	_____(17,18)
5. _____	_____	_____	_____(19,20)
6. _____	_____	_____	_____(21,22)
7. _____	_____	_____	_____(23,24)
8. _____	_____	_____	_____(25,26)
9. _____	_____	_____	_____(27,28)
10. _____	_____	_____	_____(29,30)

11. WHAT PERCENT OF THE TOTAL REQUESTS RECEIVED BY YOUR LIBRARY FROM OTHER LIBRARIES (AS ENTERED IN QUESTION (J)) DO THE ABOVE REPRESENT? _____ % (31-33)

X. PLEASE INDICATE BELOW THE TEN SOURCES (INCLUDING BIBLIOGRAPHIC CENTERS) FROM WHICH YOU MOST FREQUENTLY BORROW MATERIALS. RANK ACCORDING TO THE NUMBER OF REQUESTS THAT YOUR LIBRARY MAKES ANNUALLY, IF POSSIBLE. INDICATE THE NUMBER OF REQUESTS MADE OF THIS INSTITUTION DURING THE LAST REPORTING YEAR IF THIS STATISTIC IS AVAILABLE.

LIBRARY NAME	LOCATION	NUMBER OF REQUESTS MADE LAST YEAR	
1. _____	_____	_____	_____(34,35)
2. _____	_____	_____	_____(36,37)
3. _____	_____	_____	_____(38,39)
4. _____	_____	_____	_____(40,41)
5. _____	_____	_____	_____(42,43)
6. _____	_____	_____	_____(44,45)
7. _____	_____	_____	_____(46,47)
8. _____	_____	_____	_____(48,49)
9. _____	_____	_____	_____(50,51)
10. _____	_____	_____	_____(52,53)
11. WHAT PERCENT OF THE TOTAL REQUESTS MADE, AS ENTERED IN QUESTION (C), DO THE ABOVE REPRESENT?			_____(54-56)

5.6 Case Study Data Conversion

There are two sections of the in-depth case study instrument (Form #3) that are not coded for keypunching in the required survey format. These are the staff lists and associated data, pages 7 through 13, and the equipment and communications costs, pages 19 and 20.

The staff lists can be converted manually with the aid of a calculator to conform data to the summary format of departmental staff (as in Form #2, page 6). The user should note that the total library, administrative department and materials finishing staff summaries are requested on page 13 of Form #3 and are in appropriate format. All the user need summarize are the data from the four pages of staff lists. If more than two or three staff members appear in each section or department, data can be more efficiently summarized with the use of the CON subroutine as listed in the Appendix I . This subroutine converts the staff lists (pages 7 through 10 of Form #3) to the summary output table identical in format to that of Form #2, page 6. (A sample output is reproduced in Appendix I.) The following four statements will access the CON subroutine. (Reminder: FORTRAN program statements begin in column 7):

```
LIB = 900
NOEMP = 43
CALL CON (LIB,NOEMP)

END
```

where LIB is the library number; and, NOEMP is the total number of punched cards for employees listed on pages 7 through 10. Refer to section 4.4 for instructions on keypunching these staff lists. There must be one card for each employee in each department. That is, if an employee spends part of the week in cataloging and part in the acquisitions department, this employee must have two cards for the CON subroutine so that his/her time is entered in both departments. The only input data required for the CON subroutine are cards punched from these staff lists.

Information pertaining to the staff benefit rate (item F, page 11, lines 1 through 6) with items J through M on page 13 must be transcribed into the survey format to fill cards 28 and 29. Refer to section 5.5 and exhibit 5-1 for the format of these cards.

Information pertaining to equipment and communications costs, (pages 19 and 20 of the case study instrument, Form #3) should be transcribed to the survey format of Form #2, for preparation of cards 46 and 47. The annual cost for copying equipment rental, supplies and maintenance in Form #3 (page 20, question C) is equivalent to question A, page 13 of the survey instrument, Form #2, and should be input as such. That is, the annual cost of copying is entered as the first data element

(columns 11-17) on card 46. The annual communications costs are then entered in the remaining columns of cards 46 and 47. The order of the information requested is the same on both instruments. However, Form #3 does not include card and column identifiers for annual cost information. Additional information on communications (i.e., purchase price and date of purchase) in Form #3 should be ignored. The user should compare the questions in Form #3 and Form #2 to verify that he/she has transcribed the information correctly. Exhibit 5-3 is a sample page from the survey instrument (Form #2).

5.7 Subprogram Calling Specifications

The system was written in FORTRAN and access to subroutines is made through a short FORTRAN calling program. The data from the survey instruments are assumed to be on tape or disk, unit 8. In addition to these data, inputs to the calling program are two 5-digit numbers: The first input indicates the stratum from which the user wishes to generate the summary tables, and the second input denotes the number of libraries in that stratum. These two may be input either from the card reader or specified in the calling program. The number of libraries in any one stratum must not exceed 30. The specified calling digits are as follows:

- | | |
|---|--------------------------|
| 1 | Large Academic Libraries |
| 2 | State Libraries |
| 3 | Large Public Libraries |
| 4 | Other Regional Libraries |
| 5 | Other Academic Libraries |
| 6 | Other Public Libraries. |

The user will note that these digits are the coded stratum designator digits (as explained in section 5.3), plus 1.

The user must designate the unit on which the survey data is stored as unit 8 in the job control cards he/she uses. Due to the complicated nature of the system of programs, it is recommended that the user enter all subroutines into a library.

M. PLEASE DESCRIBE THE PRIORITY THE LIBRARY HAS IN USING THE SYSTEM(S) DESCRIBED IN QUESTIONS (E) THROUGH (L). IF MORE THAN ONE SYSTEM IS EMPLOYED BY THE LIBRARY, INDICATE EACH SYSTEM SEPARATELY. PRIORITY ON THE SYSTEM IS CONSIDERED TO BE THE PRECEDENCE THE LIBRARY HAS IN USING THE SYSTEM (e.g. third priority after accounting and financial aids, first before any other unit may use the system).

V. EQUIPMENT, COMMUNICATIONS, AND RELATED SUPPLIES

A. PLEASE ESTIMATE THE ANNUAL COST EXPECTED DURING THE CURRENT REPORTING YEAR FOR COPYING EQUIPMENT RENTAL, SUPPLIES AND MAINTENANCE USED FOR INTERNAL LIBRARY FUNCTIONS (EXCLUDE COSTS FOR COPYING EQUIPMENT AND SUPPLIES WHICH ARE PATRON REIMBURSED, OR FOR EQUIPMENT FOR PUBLIC USE).

(c46)
\$ _____ (11-17)

B. PLEASE ESTIMATE THE ANNUAL COSTS EXPECTED DURING THE CURRENT REPORTING YEAR FOR THE FOLLOWING AREAS OF COMMUNICATIONS AND RELATED EQUIPMENT, SUPPLIES, AND MAINTENANCE COSTS.

1. TELEX (an automatic teleprinter exchange switching service provided by Western Union) equipment rental, maintenance, supplies and communications charges.

\$ _____ (18-24)

2. TELETYPE EXCHANGE SERVICE, TWX, (an automatic dialed teleprinter exchange switching service provided by Western Union on a commercial toll basis) equipment rental, maintenance, supplies and communication charges.

\$ _____ (25-31)

3. DATATEL or DATEL (data or high-speed telegraph system coordinated with voice connections) equipment rental, maintenance, supplies and communications charges.

\$ _____ (32-38)

4. OTHER TELETYPE SERVICE, equipment rental, maintenance, supplies and communications charges.

\$ _____ (39-45)

5. FACSIMILE (FAX) TRANSMISSION (of pictures, maps, etc.), equipment rental, supplies, maintenance and communications charges.

\$ _____ (46-52)

6. DATAPHONE (data or high speed telephone system), equipment rental, maintenance, supplies and communication charges.

\$ _____ (53-59)

7. CRT (CATHODE RAY TUBE) OR REMOTE ACCESS TERMINAL, equipment rental, supplies, maintenance and communication charges providing interactive access to computer via a television-like screen or line printer and keyboard.

\$ _____ (60-66)

8. LINE CHARGES, LEASED LINES, OTHER MEANS OF COMMUNICATIONS TO AUTOMATED SYSTEMS (COMPUTER) NOT INCLUDED IN ABOVE.

\$ _____ (67-73)

9. TELEPHONE, OTHER THAN ABOVE

\$ _____ (74-80)

10. OTHER COMMUNICATIONS COSTS EXPECTED (SPECIFY)

(c47)
\$ _____ (11-17)

\$ _____ (18-24)

\$ _____ (25-31)

TOTAL COMMUNICATIONS COSTS

In the following two examples IST means the coded stratum designator and NST indicates the number of libraries in the stratum (IST). The potential user should be aware that other statements in these examples are for space allocations, error control and end of job control. These must be included for the job to run correctly.

```

1...5...10....5...20....5...30....5...40....5...50....5...60....5...
  DIMENSION IP(5)
  RFAL*8 D(50)
  COMMON/DICT/D,IP
  1  FORMAT (2I5)
  6  READ(5,1)IST,NST
    IF(IST)4,4,5
  5  CALL DCTSRC(IST)
    K=IP(3)
    IF(K.EQ.19) STOP
C INSERT SUBROUTINE CALL STATEMENTS BETWEEN THESE TWO CARDS

```

```

C INSERT SUBROUTINE CALL STATEMENTS BETWEEN THESE TWO CARDS
  GO TO 6
  4  CONTINUE
  END

```

Data Cards are:

```

1   10
5   18

```

The data set ends with a blank card.

Or, if you have only one group, the card read can be omitted, as in the following:

```

1...5...10....5...20....5...30....5...40....5...50....5...60....5...
  DIMENSION IP(5)
  RFAL*8 D(50)
  COMMON/DICT/D,IP
C INSERT IST AND NST BETWEEN THESE TWO CARDS
  IST=2
  NST=10
C INSERT IST AND NST BETWEEN THESE TWO CARDS
  CALL DCTSRC(IST)
  K=IP(3)
  IF(K.EQ.19) STOP
C INSERT SUBROUTINE CALL STATEMENTS BETWEEN THESE TWO CARDS

```

```

C INSERT SUBROUTINE CALL STATEMENTS BETWEEN THESE TWO CARDS
  END

```

See Appendix F for sample deck set ups for an IBM installation. The user should check with someone who is familiar with his/her installation for the exact form of the control cards necessary to run this job.

5.8 Subroutine Description and Calling Statements

In the following descriptions IST stands for the strata calling number (i.e., the specified calling number as described in section 5.7) and NST stands for the number of libraries in the group or stratum. The user should refer to samples of all output tables found in Appendix E.

1. SUBHLD, the subroutine to generate the holdings table (Table I) is called with the statement CALL SUBHLD (IST,NST). This subroutine uses information in cards 2-11 (from page 4 of Form #2).
2. SUBSTF is the subroutine to generate tables on staffing, either Table II, staffing for the entire library, or Table B for individual departments. The statement CALL SUBSTF (IST,NST,i) is used, where i is a single digit number 1 to 7, that coincides with the column in which the information is recorded on page 6 of Form #2. For example, a CALL SUBSTF (IST,NST,1) produces the Table II series for the entire library while CALL SUBSTF (IST,NST,3) produces the Table VIIIB series for the acquisitions department. The tables for the individual departments can also be generated in the departmental subroutines (see subroutines 7, 8, and 9 below).
3. SUBPRC, the subroutine to generate the Table III series on processing and reference support and Table IV on computer systems used within the library, from the data provided on pages 8 through 12 (of Form #2) is called with CALL SUBPRC (IST,NST).
4. SBEQCM, the subroutine to summarize the data on equipment and communications (from page 13, Form #2) into a single table is called with the statement CALL SBEQCM (IST,NST).
5. SUBBDG, is the general budget profile subroutine which generates the Tables VI and VI A for the whole library and the series of A:Budget Profile tables for the individual departments. The statement CALL SUBBDG (IST,NST,i), where i is the number of the column in which the data appear on pages 14 and 15, accesses this subroutine. For example, CALL SUBBDG (IST,NST,1) produces the Tables VI and VI A, while CALL SUBBDG (IST,NST,4) produces the Table IX A series for the cataloging department. As with the staffing subroutine, the departmental budget profile can also be produced in the subroutines for individual departments (see 7, 8, 9 below).
6. SUBRGN is the subroutine which generates the series of tables VII A through VII E, summarizing the data on regional services from pages 16 to 20 of Form #2. The statement CALL SUBRGN (IST,NST) calls this subroutine and generates the five tables for regional libraries.

7. SUBACQ is a three-part subroutine which profiles the acquisitions department. SUBACQ is called with CALL SUBACQ (IST,NST,i) where i = 1 or 2. If i = 1, i.e., CALL SUBACQ (IST, NST,1), the entire profile is produced including Table VIII A budget and Table VIII B, Staffing and Table VIII C. If i = 2, only Table C, Ordering Patterns, is produced.

8. SUBCAT, called with CALL SUBCAT (IST,NST,i) where i is 1 or 2, as in 7 above, produces the series of 3 cataloging profile tables IX-A, budget profile, IX-B, staffing and salary expenditures, and IX-C, cataloging patterns.

9. SUBILL, as in both 7 and 8 above is called with CALL SUBILL (IST, NST, i). SUBILL can produce the entire series of inter-library loan profile tables, including budget (table X-A), staffing (table X-B) and volume (table X-C). If i = 1 the subroutine in turn calls both SUBBDG and SUBSTF to produce table X-A and X-B, in addition to producing Table X-C through X-L. If i = 2, then only Tables X-C through X-L are produced.

10. SUBADM produces the two tables XI, budget (A) and staffing (B) for administrative department overhead with CALL SUBADM (IST, NST).

The reader is reminded that call statements (e.g., CALL SUB____) must begin in column 7.

THE INTERLIBRARY LOAN SURVEY

6.1 Introduction

The interlibrary loan survey is based upon two instruments, one to monitor borrowing requests (Form #8) and the other to monitor lending requests (Form #9). As with the other instruments used in these studies, forms #8 and #9 are coded for keypunching directly from the form. Where the requested information is the same on the two forms, both borrowing and lending, data are punched into the same columns. The only differences between ILL survey instruments used by the case study libraries and those instruments used by other libraries (Forms #8a and #9a) in the survey, was the additional staff time spent on ILL tasks (e.g., verification of the request) at the end of the instruments required for the case studies. If the user wishes to analyze these tasks on Forms #8 and #9, the same methodology as that employed in activity sheets (Section 4) should be used. The user should make the necessary format changes to adjust Forms #8 and #9 task data to activity sheet specifications.

Since WILCO surveyed libraries of varied size and type, participating libraries were asked to sample their interlibrary loan activity. This sampling measure necessitated a weighting structure corresponding to the sampling interval. The sampling intervals vary from every transaction to only one transaction in twenty.

Due to the availability of excellent systems for the statistical evaluation of a survey of this type (e.g., SPSS and OSIRIS), it was felt unnecessary to develop original programs for this analysis. OSIRIS, a system of canned packages developed by the University of Michigan, was available through the IBM system used for these studies and used for analysis of the survey.

In the interlibrary loan survey, we maintained the divisions of libraries according to type and size, since borrowing and lending characteristics differ widely according to these variables. The reader should refer to section 5.3 for the method of stratification of libraries employed in these studies.

Section 6.2 describes the keypunching procedures and section 6.3 contains a suggested list of tables that the reader may wish to generate using one of the statistical systems available on the market.

6.2 Keypunching and Data Preparation Procedures

Similar to the format of keypunched cards for other forms employed in these studies, the first ten columns are reserved for identification useful to both the user and the computer system. The following table specifies the data required in each of these ten columns.

Table 6-1. Format of the First Ten Columns

<u>Col #</u>	<u>Explanation</u>
1	form number, either 8 or 9
2,3	blank
4,5	the sampling interval (e.g., 1, 3, 5, etc.)
6	blank
7, 8, 9	library number
10	blank

On the instruments, the date of patron request or date request received (18-22) and the date of disposition (23-26) were allocated 4 columns. Each was punched as mmdd (i.e., two digits for the month and two for the day, so that May 24, 1976 would be punched 0524). The publication date (item I-B on both forms) is allocated 8 columns, and is punched mmddyyyy. The same date exemplified above would be punched 05241976 in columns 28 through 35. The obvious reason for the use of four digits to indicate year of publication is to distinguish pre-twentieth century publications.

On the lender's transaction log (Form #9), item III, on re-verification can be placed in any of three columns: 48, 49, or 50. The user should be consistent in the use of the column number that he/she chooses. The remaining columns should be punched according to the specified column numbers appearing on the form.

6.3 Tables Generated for These Studies That Might be of Interest

The user can choose from a wide variety of possible correlations obtainable from the data on the forms. Obviously, the list of possible correlations is lengthy. For the interlibrary loan survey, we found that the following list of univariate and bivariate tables were useful in analyzing the data:

FOR BOTH BORROWING AND LENDING TRANSACTION LOGS

Type of publication: by publication date; by language; by reason for this type of agency; by type of agency (requester or lender); by verification tool; by form of loan requested or loaned; by fill rate.

Publication date: by all of the above; by call number classification range.

Language: by call number classification; by reason for choice of agency; by type of agency (requester or lender); by verification tool; by fill rate.

Borrower or lender type: by location; by fill rate; by communication employed; by time lag.

Delivery method: by location of agency (borrower or lender).

FOR BORROWING TRANSACTION LOGS ONLY (Form #8)

Reason for choice of agency: by type of library material requested; by fill rate; by verification tool.

Verification tool: by fill rate.

Re-requested: by time lag.

Location: by time lag.

FOR LENDERS TRANSACTION LOGS ONLY (Form #9)

Segregate results by regional/non-regional requests.

Verification (yes/no/unknown) by requesting library type.

Reason for non-fill: by type of requesting library.

Disposition of request: by type of library.

APPENDIX A

Publications List and Availability Statement

REFERENCES AND BIBLIOGRAPHY OF WILCO PUBLICATIONS

Publications listed below with a price and WICHE catalog number may be ordered, pre-paid, from Publications Unit, WICHE, P.O. Drawer P, Boulder, Colorado 80302. Other items may be requested from WILCO at the same address; items followed by an asterisk are not stocked, and Xerox copies at \$.10 per page will be furnished upon request.

1. A Proposal for Design and Development of a Western Interstate Bibliographic Network. Western Interstate Commission for Higher Education (WICHE), Boulder, Colorado, March 21, 1975, 88p. (*)
2. Initiating the Design and Development of a Western Interstate Bibliographic Network. WICHE, Boulder, Colorado:
 First Quarterly Report, July-September 1975. December 15, 1975, 83p.
 Second Quarterly Report, October-December 1975. February 25, 1976, 54p.
 Third Quarterly Report, January-March 1976. May 31, 1976, 85p.
 Fourth (Final) Quarterly Report, April-August 1976, October 22, 1976, 125p.
 (Cat. #2B136, \$3.50)
3. Pearson, K. M. and the Project Staff. A Review of Potential Components for the Western Bibliographic Network, WICHE, March 5, 1976, 72 p. (Catalog #2B121, \$2.50)
4. WILCO Newsletter. (Formerly Western Network Newsletter.) WILCO, WICHE, Boulder, Colorado. Number 1-
5. Assessing the Impact of On-Line Access to Location Data on Interlibrary Loan Patterns. WICHE, Boulder, Colorado, 5 January 1976, 67p.(*)
6. Minutes of the Western Network Project Organizing Steering Committee Meeting, Boise, Idaho, February 2-3, 1976, WICHE, February 18, 1976. (*)
7. Pearson, Karl M., Jr. Survey of Union Serials Data Bases in the West. WILCO, WICHE, Boulder, Colorado, 30 September 1976, 8 p. (N-16/000/02).(*)
8. Butler, Brett. Discussion Report: WICHE "Western Networks" Meeting, Denver, Colorado, March 203, 1976. Butler Associates/R&D Consultants, Los Altos, California, March 16, 1976, 12 p. (*)
9. Montague, Eleanor A. et al. Western Interstate Cooperative Bibliographic Network Alternatives for Action. WICHE, Boulder, Colorado, March 1976, 66 p. (Draft working paper; limited distribution.)
10. A Proposal for Facilitating Equitable Interstate Sharing of Library Resources in the West. WICHE, Boulder, Colorado, March 31, 1976, 57p.(*)
11. Duggan, Maryann. The WICHE Project for Continuing Education of Library Personnel: An Analytical Summary of the Past and Alternatives for the Future. WICHE, Boulder, Colorado, March 1976, 67p. (working paper, limited distribution)

12. Gassler, Scott. Economic Issues in the Networking of Library Technical Support Services. WICHE, Boulder, Colorado, October 1976, 20p. (Cat. #2B131, \$1.50)
13. Library Networking in the West: The Next Three Years. WILCO, WICHE, September 1976, 19p. (Fifth Draft) (Cat. #2B127)
14. Telecommunications and Message Processing for Library Networking: A System Concept and Proposal Outlines. WILCO, WICHE, July 7, 1976, 12 p. (*)
15. Survey of Costs in Technical Processing and Interlibrary Loan -- Survey Tables and Cost Studies Results (Cat. #2B129, \$not set yet)
16. Survey of Costs in Technical Processing and Interlibrary Loan -- Summary (Cat. #2B130, \$not set yet)
17. Librarian's Handbook for Costing Network Services (Cat. #2B134, \$not set yet)
18. Costs in Technical Processing and Interlibrary Loan -- Data Processing Users Manual (Cat. #2B133, \$not set yet)
19. Final Report of the Project "Conducting Cost and Funding Studies Concerning Development and Implementation of Western Interstate Bibliographic Network" (Cat. #2B132, \$not set yet)

The potential user who wishes copies of the programs for the analysis of the survey data should contact the WICHE Publications Unit, P.O. Drawer P., Boulder, Colorado 80302 for availability and cost information.

APPENDIX B

DEFINITION OF TERMS AND MATHEMATICAL FORMULAE

Alphabetic Codes: Codes containing any letters from the alphabet.

Alphanumeric Codes: Codes containing alphabetic and numeric characters.

Average (Arithmetic Mean): the number obtained by dividing the sum of a set of numbers by the number of elements in the set.

Bivariate Analysis: the analysis of the dynamic relationship between two variables (i.e., to what degree (if any) do two variables change with respect to one another). An analysis of the joint distribution of two variables. For example, the analysis of library funding with respect to inflation.

Blank: code used to indicate missing data; a blank column is one that contains no punch. Indicated in this text as Ø.

Call Statement: A program statement which transfers control of the program to a subprogram. This subprogram returns control of the program to the next statement of the main body of the program when it is finished (usually indicated by a RETURN statement.)

Card: A data storage medium which is used to enter information into a computer by means of a series of holes punched into it. The standard punched card is $7 \frac{3}{8}$ inches (18.7cm) wide and $3 \frac{1}{4}$ inches (8.2cm) high and contains 80 columns for information.

Card Number: Code used when there is more than one card of input to indicate the sequence of input.

Character: One numeric digit, alphabetic character, or punctuation mark.

Column: One of 80 vertical sections (positions) of a punched card. Each column may contain a single character, e.g., a 1 is a 1 punch in a column.

Data: Numerical information in a form appropriate for processing by the computer.

Data element: A single piece of numerical information. For example, 26 would represent a data element, however 2, and 6, would represent two data elements.

Data Set: The set of all data elements which logically belong together and are ready to input to the computer.

Deck: A set of punched cards.

Dictionary: A list of words or partial words, or sets of words which are combined to form sentences, phrases or other words for output or for identification of output (e.g., table titles, column headers on printed output). The dictionary simplifies PRINT statements within the program. It is often more efficient to have the system write words numbered 5, 7, 10, 20 on line one, and words numbered 5, 6, 8, 11, 21 on line two, than to have commands within the program for the system to write:

"the quick brown fox," and

"jumped over the lazy dog."

Disk: A data storage medium, similar to tape in terms of usage.

Field: a single column or a series of columns on a punched card which specifies a single data element. The field of columns 16-20 contains 5 columns, 16, 17, 18, 19, and 20.

FORTRAN: (FORmula TRANslator). The name given to a system which translates formulae into the computer's language. One of the oldest and best standardized (ANS-American National Standard) languages in the computer business. All FORTRAN statements must start in column 7. Programs written in ANS (American National Standard) FORTRAN are generally portable between systems from the same manufacturer and between machines from different manufacturers.

ID Number: The unique identifying number for every respondent (library or employee) for which there are data needs.

Input: The set of data or information which is fed to the computer for processing.

Input Stream: The ordering of the input to a computer system. For example, card 11 comes before card 12. That is, the deck of input information, in the appropriate order which the computer must (or expects) to read data.

JCL: Job control language, usually used in system control statements at the beginning and end of programs; Each machine usually has a unique JCL.

Job: A computer run, including programs and data which produces output.

Keypunch: A machine to punch (or prepare) cards for input. The keyboard of the machine resembles a typewriter, and by striking a key, the machine produces the appropriate holes in the card for the computer to "read" the character of number as reflected on the key. Also, the process of punching data onto cards.

Output: The set of data which the computer produces by processing or massaging the the input; the results obtained from the running of a program. In this system all output is printed.

Print-Out: Output on paper.

Program: A series of statements to instruct the computer to perform manipulations on input and produce output.

Punch: The square holes on a computer card designating numeric and alphabetic codes in each column of card; the process of keypunching.

Right Justified: Information (data) is placed as far to the right in the allocated field as possible. That is, if the allocated field is (16-20), the number 26 is punched ~~26~~26 (where means a blank column) and not ~~26~~ (which would be read as 2600).

Standard Deviation: A statistical measure equal to the square root of the variance. The variance is the sum of the squares of the differences of observations from the mean. The standard deviation indicates a relative closeness of the set of data to the mean. A large standard deviation relative to the magnitude of the arithmetic mean implies that the data are not grouped near the mean.

Subprogram: See subroutine.

Subroutine: A program which is called from another program or subprogram. All data and statements are independent from the calling program. Control of the flow of the processing of the data is transferred to the subroutine through the "CALL" statements, and data are passed through allocated blocks of data storage "common" to both programs.

System: A series of connected programs to process data and produce output. The difference between a system and a series of programs is that with the system the user is able to select the output he/she desires and to some extent the input he/she intends to provide, while with a program the user is confined to the specified input and the specified output.

Tape: A data storage medium for the computer.

Univariate Analysis: The analysis of the responses to a single question. That is, an analysis of the distribution of a single variable over all observations.

Verification: The process of checking punched cards (or tape) for accuracy.

MATHEMATICAL FORMULAE

Average (mean) of i elements of weight f_i

$$\bar{x} = \frac{\sum f_i x_i}{\sum f_i}$$

Standard Deviation, of i elements of weight f_i , with mean \bar{x}

$$\mu_2 = \frac{\sum f_i (x_i - \bar{x})^2}{\sum f_i}$$

Holdings Growth

$$\Delta H = \frac{\sum_{i=2}^4 \text{HLD}_i - \text{HLD}_{i-1}}{\sum_{i=2}^4 \text{HLD}_i} \quad \text{where } \text{HLD}_i = \text{non-zero for year } i$$

Average Salary per FTE

$$\text{SF} = \frac{\sum \text{salaries}}{\sum \text{FTE}} \begin{cases} \text{for each employee grouping,} \\ \text{for total library and/or each department} \end{cases}$$

Percent of budget allocated to ___ (any department)

$$\text{PB} = \frac{\text{department budget}}{\text{total library budget}} \times 100$$

Annual budget expenditure per throughput

$$\text{EPT} = \frac{\text{department expenditure last reporting year}}{\text{department items processed last reporting year}}$$

Hourly cost (for those employees on annual salary)

$$\text{HC} = \frac{\text{AS}(1+\text{FB})}{(2080 - 8 \times \text{DZOF} - \text{SAB}) \times K \times K'}$$

Where AS = annual salary

FB = fringe benefit rate as stated/100

DZOF = total paid holidays annually

SAB = days of sabbatical accrued annually

K = fraction of week worked if less than 40 hours

K' = fraction of year worked if less than 12 months

Hourly cost (for those employees that receive hourly wages)

$$\text{HC} = \text{HW} (1+\text{FB})$$

Where HW = hourly wages as stated and FB = fringe benefit rate as stated/100

APPENDIX C

SAMPLES OF REVISED PAGES

III. STAFF (CONT'D)

PLEASE INDICATE IN THE FOLLOWING TABLE, THE FULL-TIME EQUIVALENCIES IN EACH CATEGORY. PLEASE INCLUDE OPEN POSITIONS AS WELL. ALSO FOR EACH CATEGORY, INDICATE THE TOTAL ANNUAL SALARY EXPENDITURE, EXCLUDING FRINGE BENEFITS. INCLUDE OPEN POSITIONS IN SALARY CALCULATIONS ALSO. NOTE THAT SALARY EXPENDITURES SHOULD CORRESPOND TO THE NUMBER OF FULL-TIME EQUIVALENCES (FTE) IN EACH CATEGORY.

FULL-TIME EQUIVALENCIES (FTE)		A. TOTAL LIBRARY (11-20)	B. ADMINISTRATION (21-30)	C. ACQUISITIONS DEPARTMENT (31-40)	D. CATALOGING DEPARTMENT (41-50)	E. SERIALS DEPARTMENT (51-60)	F. INTERLIBRARY LOAN DEPARTMENT (61-70)	G. MATERIALS FINISHING (71-80)	H. ALL OTHER	
1. Professional librarian										(c13)
2. Other professional										(c14)
3. Library assistant										(c15)
4. Clerks										(c16)
5. Student assistant/page										(c17)
6. Other (excluding staff involved in plant maintenance)										(c18)
Subtotal of staff paid by library										
7. Staff paid by outside sources										(c19)
8. Volunteers										(c20)
Total FTE										
SALARIES										
9. Professional librarian		\$		\$	\$	\$	\$	\$	\$	(c21)
10. Other professional		\$	\$	\$	\$	\$	\$	\$	\$	(c22)
11. Library assistant		\$	\$	\$	\$	\$	\$	\$	\$	(c23)
12. Clerks		\$	\$	\$	\$	\$	\$	\$	\$	(c24)
13. Student assistant/page		\$	\$	\$	\$	\$	\$	\$	\$	(c25)
14. Other (excluding staff involved in plant maintenance)		\$	\$	\$	\$	\$	\$	\$	\$	(c26)
Total salaries paid by the library		\$	\$	\$	\$	\$	\$	\$	\$	(c27)

I. STATE (CONT'D)

1. PLEASE INDICATE BELOW THE STAFF BENEFIT RATE (PERCENT OF SALARY) GIVEN TO EMPLOYEES IN EACH OF THE FOLLOWING CATEGORIES: (c28)

1. Professional librarian	____%	(11-14)
2. Other professional	____%	(15-18)
3. Library assistant	____%	(19-22)
4. Clerks	____%	(23-26)
5. Student assistant/page	____%	(27-30)
6. Other (excluding staff involved in plant maintenance)	____%	(31-34)
1. Business and financial staff (excluding book fund bookkeepers)	_____	(35-38)
2. Book fund bookkeepers	_____	(39-42)
3. Library planning	_____	(43-46)
4. Library fund raising	_____	(47-50)
5. Systems analysts	_____	(51-54)
6. Programmers	_____	(55-58)

J. PLEASE INDICATE BELOW THE FULL-TIME EQUIVALENCIES (FTE) PRESENTLY EMPLOYED IN YOUR LIBRARY IN THE FOLLOWING FUNCTIONS OR POSITIONS:

K. PLEASE INDICATE THE AVERAGE SALARY INCREASES GIVEN DURING THE FOLLOWING YEARS BY CATEGORIES OF EMPLOYEE. THIS SHOULD REPRESENT THE COMBINED PERCENTAGE INCREASES OF MERIT AND COST-OF-LIVING INCREASES. *PROMOTIONAL INCREASES GIVEN TO EMPLOYEES MOVING INTO NEW POSITIONS SHOULD NOT BE INCLUDED.

TYPE OF EMPLOYEE	1974	1975	1976 (est.)
1. Professional librarian	____%	____%	____%
2. Other professional	____%	____%	____%
3. Library assistants	____%	____%	____%
4. Clerks	____%	____%	____%
5. Student assistant/page	____%	____%	____%
6. Other (excluding staff involved in plant maintenance)	____%	____%	____%
	(11-13)	(14-16)	(17-19)
	(20-23)	(23-25)	(26-28)
	(29-31)	(32-34)	(35-37)
	(38-40)	(41-43)	(44-46)
	(47-49)	(50-52)	(53-55)
	(56-58)	(59-61)	(62-64)

F. PLEASE DESCRIBE THE PRIORITY THE LIBRARY HAS IN USING THE SYSTEM(S) DESCRIBED IN QUESTIONS (E) THROUGH (I). IF MORE THAN ONE SYSTEM IS EMPLOYED BY THE LIBRARY, INDICATE EACH SYSTEM SEPARATELY. PRIORITY OR THE SYSTEM IS CONSIDERED TO BE THE PRECEDENCE THE LIBRARY HAS IN USING THE SYSTEM" (e.g. third priority after accounting and financial aids, first before any other unit may use the system).

V. EQUIPMENT, COMMUNICATIONS, AND RELATED SUPPLIES

A. PLEASE ESTIMATE THE ANNUAL COST EXPECTED DURING THE CURRENT REPORTING YEAR FOR COPYING EQUIPMENT RENTAL, SUPPLIES AND MAINTENANCE USED FOR INTERNAL LIBRARY FUNCTIONS (EXCLUDE COSTS FOR COPYING EQUIPMENT AND SUPPLIES WHICH ARE PATRON PAYABLE-FEE, OR FOR EQUIPMENT FOR PUBLIC USE).

(46)
\$ _____
(11-17)

B. PLEASE ESTIMATE THE ANNUAL COSTS EXPECTED DURING THE CURRENT REPORTING YEAR FOR THE FOLLOWING AREAS OF COMMUNICATIONS AND RELATED EQUIPMENT, SUPPLIES, AND MAINTENANCE COSTS.

1. TELEX (an automatic teleprinter exchange switching service provided by Western Union) equipment rental, maintenance, supplies and communications charges.

\$ _____
(18-24)

2. TELETYPE EXCHANGE SERVICE, TWX, (an automatic dialed teleprinter exchange switching service provided by Western Union on a commercial toll basis) equipment rental, maintenance, supplies and communication charges.

\$ _____
(25-31)

3. DATATEL or DATEL (data or high-speed telegraph system coordinated with voice connections) equipment rental, maintenance, supplies and communications charges.

\$ _____
(32-38)

4. OTHER TELETYPE SERVICE, equipment rental, maintenance, supplies and communications charges.

\$ _____
(39-45)

5. FACSIMILE (FAX) TRANSMISSION (of pictures, maps, etc.), equipment rental, supplies, maintenance and communications charges.

\$ _____
(45-52)

6. DATAPHONE (data or high speed telephone system), equipment rental, maintenance, supplies and communication charges.

\$ _____
(53-59)

7. CRT (CATHODE RAY TUBE) OR REMOTE ACCESS TERMINAL, equipment rental, supplies, maintenance and communication charges providing interactive access to computer via a television-like screen or line printer and keyboard.

\$ _____
(60-66)

8. LINE CHARGES, LEASED LINES, OTHER MEANS OF COMMUNICATIONS TO AUTOMATED SYSTEMS (COMPUTER) NOT INCLUDED IN ABOVE.

\$ _____
(67-73)

9. TELEPHONE, OTHER THAN ABOVE

\$ _____
(74-80)

10. OTHER COMMUNICATIONS COSTS EXPECTED (SPECIFY)

\$ _____
(81-87)

\$ _____
(88-94)

\$ _____
(95-101)

\$ _____
(102-108)

\$ _____
(109-115)

TOTAL COMMUNICATIONS COSTS

\$ _____
(116-122)

Initials _____

- W. PLEASE INDICATE BELOW INSTITUTIONS (INCLUDING BIBLIOGRAPHICAL CENTERS) WHICH MOST FREQUENTLY REQUEST MATERIALS FROM YOUR LIBRARY. RANK ACCORDING TO THE NUMBER OF REQUESTS MADE ANNUALLY, IF POSSIBLE. INDICATE THE NUMBER OF REQUESTS RECEIVED BY YOUR LIBRARY FROM THIS LIBRARY OR CENTER DURING THE LAST REPORTING YEAR, IF THIS STATISTIC IS AVAILABLE.

LIBRARY NAME	LOCATION	NUMBER OF REQUESTS RECEIVED LAST YEAR (c77)
1. _____	_____	_____ (11,12)
2. _____	_____	_____ (13,14)
3. _____	_____	_____ (15,16)
4. _____	_____	_____ (17,18)
5. _____	_____	_____ (19,20)
6. _____	_____	_____ (21,22)
7. _____	_____	_____ (23,24)
8. _____	_____	_____ (25,26)
9. _____	_____	_____ (27,28)
10. _____	_____	_____ (29,30)

11. WHAT PERCENT OF THE TOTAL REQUESTS RECEIVED BY YOUR LIBRARY FROM OTHER LIBRARIES (AS ENTERED IN QUESTION (J)) DO THE ABOVE REPRESENT? _____
% (31-33)

- X. PLEASE INDICATE BELOW THE TEN SOURCES (INCLUDING BIBLIOGRAPHIC CENTERS) FROM WHICH YOU MOST FREQUENTLY BORROW MATERIALS. RANK ACCORDING TO THE NUMBER OF REQUESTS THAT YOUR LIBRARY MAKES ANNUALLY, IF POSSIBLE. INDICATE THE NUMBER OF REQUESTS MADE OF THIS INSTITUTION DURING THE LAST REPORTING YEAR IF THIS STATISTIC IS AVAILABLE.

LIBRARY NAME	LOCATION	NUMBER OF REQUESTS MADE LAST YEAR
1. _____	_____	_____ (34,35)
2. _____	_____	_____ (36,37)
3. _____	_____	_____ (38,39)
4. _____	_____	_____ (40,41)
5. _____	_____	_____ (42,43)
6. _____	_____	_____ (44,45)
7. _____	_____	_____ (46,47)
8. _____	_____	_____ (48,49)
9. _____	_____	_____ (50,51)
10. _____	_____	_____ (52,53)
		_____ % (54-56)

11. WHAT PERCENT OF THE TOTAL REQUESTS MADE, AS ENTERED IN QUESTION (C), DO THE ABOVE REPRESENT? _____

APPENDIX D

SAMPLES OF CORRECTLY PUNCHED DATA



1...5...10...20...50...100	RECORD #	LENGTH
20101 410 1 197511967197320765 1 0110010	1	80
20402 410 182991	2	80
20403 410 209450	3	80
20404 410 1611	4	80
20405 410 18982	5	80
20406 410 222049	6	80
20407 410 243928	7	80
20408 410 614617	8	80
20409 410 621875	9	80
20410 410 639186	10	80
2 410 410 676387	11	80
2 411 410 693387	12	80
20412 410 770012	13	80
20613 514 58.1	14	80
20614 514 58.1	15	80
20615 514 35.7	16	80
20616 514 48.95	17	80
20617 514 37.85	18	80
20618 514 55	19	80
20619 514 55	20	80
20620 514 12	21	80
20621 514 879197	22	80
20622 514 33288	23	80
20623 514 392096	24	80
20624 514 451817	25	80
20625 514 284783	26	80
20626 514 2041182	27	80
20627 514 16 16 16	28	80
20728 514 16 16 16	29	80
20729 514 6.69,66.25,15.36,27.07,56.27,58.56,27.56,86.2	30	80
31430 002 1.1746	31	80
31431 002 12000	32	80
31432 002 12	33	80
31533 002 99999	34	80
31534 002 12	35	80
31535 002 1850	36	80
31536 002 183	37	80
31537 002 3500	38	80
31638 002 1043	39	80
31639 002 9	40	80
31640 002 1	41	80
31641 002 1641	42	80
31642 002 540	43	80
31643 002 4220	44	80
31744 002 211	45	80
31845 002 1	46	80
31946 002 5000	47	80
31947 002 850	48	80
32248 101 3900	49	80
32249 101 641962	50	80
32250 101 147097	51	80
32251 101 25999	52	80
32252 101 2976	53	80
32253 101 13000	54	80
32254 101 22100	55	80
32255 101 11435	56	80
32256 101 2750	57	80
32257 101 10104	58	80
32258 101 26425	59	80
32259 101 34730	60	80

1...5...	5...10...	5...20...	5...30...	5...40...	5...50...	5...60...	5...70...	5...80...	5...90...	5...100	RECORD #	LENGTH
32357 102	24637A	42265	6032	12742	6519	22920	9634				57	80
32358 102											58	80
32359 102	8500										59	80
32360 102	6000										60	80
32361 102	16222										61	80
32362 102	28020										62	80
32363 102	55800										63	80
32464 301	111 4	311 111 111 111 1 1	188470	51310	0 0 2 0						64	80
32665 301	1 7	70000	50000	70000 1							65	80
32766 301	1	247189									66	80
32767 301	099										67	80
32968 301		23562 1	99 1 0 0 1	11183	419	0 10 088 2 4					68	80
33069 301	25 7 5	2 1884	1884104020	4 51214412	5954	637					69	80
33370 301		1600	1600		500	500					70	80
33371 301	200		200	137		137					71	80
33372 301	30		30								72	80
33373 301											73	80
33374 301	14		14								74	80
33375 301											75	80
33376 301			1844			637					76	80
33477 301	2273426161	907322426161	90								77	80

.....77 READ &77 WRITTEN...00TS=EOJ.. COND CODE=0000

1...5...10...5...20...5...30...5...40...5...50...5...60...5...70...5...80...5...90...5...100	RECORD #	LENGTH
7 201 0001 5 80 12	1	80
7 201 0001 6 120 25	2	80
7 201 0001 7 75 25	3	80
7 201 0001 9 240 25	4	80
7 201 0001 10 100 15	5	80
7 201 0001 11 200 50	6	80
7 201 0001 14 20 2	7	80
7 201 0001 16 30 3	8	80
7 201 0001 17 20 25	9	80
7 201 0001 20 60 12	10	80
7 201 0001 21 300 40	11	80
7 201 0001 22 35 7	12	80
7 201 0001 23 320 30	13	80
7 201 0001 25 470 35	14	80
7 201 0001 26 25 25	15	80
7 201 0001 27 70 20	16	80
7 201 0001 28 270 35	17	80
7 201 0001 30 20 3	18	80
7 201 0001 31 40 10	19	80
7 201 0001 33 305 60	20	80
7 201 0001 34 220	21	80
7 201 0001 35 150	22	80
7 201 0002 1 40 60	23	80
7 201 0002 2 10 2	24	80
7 201 0002 4 50 55	25	80
7 201 0002 5 30 30	26	80
7 201 0002 6 45 32	27	80
7 201 0002 10 20 2	28	80
7 201 0002 11 115 61	29	80
80005 009 155052806022	211 4135312	80
80005 009 185052806224	19531	80
80005 009 170052806284	18701	80
80005 009 115052806104	18511	80
80005 009 105052406234	1180	80
80005 009 190052806112	19561180	80
80005 009 195052806112	19711	80
80005 009 175052806172	19752	80
80005 009 150052706102	562 215311	80
80005 009 135052806102	19701	80
80005 009 140052806012	19717	80
80005 009 120052806102	462 215311	80
80005 009 110052806092	3262 315111	80
80005 009 100052105272	19671	80
80005 009 145052706101	3262 315111	80
80005 009 160052806229	19751	80
80005 009 180052806103	19751180	80
80005 009 185052807103	120052506092	80
80005 009 125052806173	110052806102	80
	19681180	80
	195510175	80
	19751	80
	193419794	80
	19701	80
	19691	80
	19711	80
	3262 315111	80
1...5...10...5...20...5...30...5...40...5...50...5...60...5...70...5...80...5...90...5...100	RECORD #	LENGTH
7 201 0001 5 80 12	1	80
7 201 0001 6 120 25	2	80
7 201 0001 7 75 25	3	80
7 201 0001 9 240 25	4	80
7 201 0001 10 100 15	5	80
7 201 0001 11 200 50	6	80
7 201 0001 14 20 2	7	80
7 201 0001 16 30 3	8	80
7 201 0001 17 20 25	9	80
7 201 0001 20 60 12	10	80
7 201 0001 21 300 40	11	80
7 201 0001 22 35 7	12	80
7 201 0001 23 320 30	13	80
7 201 0001 25 470 35	14	80
7 201 0001 26 25 25	15	80
7 201 0001 27 70 20	16	80
7 201 0001 28 270 35	17	80
7 201 0001 30 20 3	18	80
7 201 0001 31 40 10	19	80
7 201 0001 33 305 60	20	80
7 201 0001 34 220	21	80
7 201 0001 35 150	22	80
7 201 0002 1 40 60	23	80
7 201 0002 2 10 2	24	80
7 201 0002 4 50 55	25	80
7 201 0002 5 30 30	26	80
7 201 0002 6 45 32	27	80
7 201 0002 10 20 2	28	80
7 201 0002 11 115 61	29	80
80005 009 155052806022	211 4135312	80
80005 009 185052806224	19531	80
80005 009 170052806284	18701	80
80005 009 115052806104	18511	80
80005 009 105052406234	1180	80
80005 009 190052806112	19561180	80
80005 009 195052806112	19711	80
80005 009 175052806172	19752	80
80005 009 150052706102	562 215311	80
80005 009 135052806102	19701	80
80005 009 140052806012	19717	80
80005 009 120052806102	462 215311	80
80005 009 110052806092	3262 315111	80
80005 009 100052105272	19671	80
80005 009 145052706101	3262 315111	80
80005 009 160052806229	19751	80
80005 009 180052806103	19751180	80
80005 009 185052807103	120052506092	80
80005 009 125052806173	110052806102	80
	19681180	80
	195510175	80
	19751	80
	193419794	80
	19701	80
	19691	80
	19711	80
	3262 315111	80

1.....10.....5.....20.....5.....30.....5.....40.....5.....50.....5.....60.....5.....70.....5.....80.....5.....90.....5.....100	RECORD #	LENGTH			
90020 011	405 071607202	19751	2 422 35	57	80
90020 011	109 070907092	19721	6 23 27	58	80
90020 011	229 070907092	19754	2 132 3627	59	80
90020 011	725 071307162	19761	1 132 36	60	80
90020 011	468 071607162	19671	2 132 35	61	80
90020 011	37 071507162	19751	1 222 36	62	80
90020 011	871 071407164	19741	2 132 35	63	80
90020 011	384 071607162	19691	2 232 35	64	80
90020 011	701 071607162	19743	2 132 35	65	80
90020 011	157 071507162	19731	2 132 36	66	80
90020 011	194 071507199	2	2 131 5	67	80
90020 011	654 071907192	19751	1 242 36	68	80
90020 011	563 071607192	19751	2 232 35	69	80
90020 011	112 071407264	2	2 232 56	70	80
90020 011	586 071207124	19741	2 232 26	71	80
90020 011	783 071907232	19771	2 332 35	72	80
90020 011	449 071607232	19751	2 332 35	73	80
90020 011	292 071507224	19741	2 232 35	74	80
90020 011	168 072007222	19651	2 132 35	75	80
90020 011	341 071507162	19631	2 132 35	76	80
90020 011	115 071507162	19673	2 132 35	77	80
90020 011	458 071007162	1975	2 232 35	78	80
90020 011	257 071507162	19741	2 232 35	79	80
90020 011	831 071407204	19541	2 132 15	80	80
90020 011	74 071407162	19112	1 242 27	81	80
90020 011	920 072007232	19651	2 132 35	82	80
90020 011	419 071607262	19711	2 432 57	83	80
90020 011	595 071207162	19751	1 422 57	84	80
90020 011	39 071407162	1	2 322 26	85	80
90020 011	2000 071407261	19491	1 422 57	86	80
90020 011	972 071407204	19751	2 132 16	87	80
90020 011	635 071907202	19751	2 132 36	88	80
90020 011	969 072007203	19621	2 432 56	89	80
90020 011				90	80
90020 011				91	80
90020 011				92	80

.....92 READ &92 WRITTEN.....DOTS=EOJ.. COND CODE=0000

APPENDIX E

TABLES GENERATED FROM THE SURVEY INSTRUMENT DATA

and volume processed or purchased annually. Support services include pre-processing, automated cataloging systems, printed card sets and automated buying.

- Table IV: Unique Computer Support: A table of self-contained support systems developed exclusively for the library by contract and used exclusively by the library or parent institution, or an automated system developed for the library in-house by library staff or staff from the parent organization, are analyzed by function, developmental and annual maintenance costs. These systems often support several functions; however, in presentation only the first function supported is indicated.
- Table V: Equipment and Communications Costs: The annual costs for copying, TELEX, TWX, Datatel, other teletype communications, facsimile transmission, dataphone, remote access terminals, lines to a computer center and telephone are displayed.
- Table VI: Budget and Expenditure Patterns: A summary of the current year budget, and the related increases (or decreases) over last year's expenditures are included. Budget categories include capital expenditures, materials budgets, and operating budgets.
- Table VI-A: Budget and Expenditure Patterns: Departmental Allocations: Four separate tables indicating the percent of budget allocated to administration, acquisitions, cataloging, serials, interlibrary loan and materials finishing by budget category.
- Table VII-A: Regional Library Summary--Services Provided by Regional Libraries: A table indicating the number of libraries providing regional support to other libraries in the region by type of support service.
- Table VII-B: Regional Library Summary--Types of Libraries Supported: The types of libraries (public, academic, school, special) in the region supported by participants, and the number of libraries supported.

- Table VII-C: Regional Library Summary--Regional Interlibrary Loan: A synopsis of interlibrary loan handled through regional centers, including volume, fill rate, percentage filled within the library, from another library in the region, forwarded to the state library, another library outside the region, bibliographic center, or returned to the requestor with location information or unfilled.
- Table VII-D: Regional Library Summary: Regional Catalog Maintenance: An overview of the type of union catalog or list maintained by regional center participants, including types of materials, titles held and added annually, locations and average locations per title, and the age of the catalog.
- Table VII-E: Regional Library Summary--Reimbursement: A table indicating the amount, type and source of reimbursement (if any) received by regional libraries.
- Table VIII-A: Acquisitions Department--Budget Profile: Two tables indicating acquisitions operating budgets and related cost per volume throughput examined by budget category. Increase over last year's expenditures are also examined.
- Table VIII-B: Acquisitions Department--Staffing and Salary Expenditures: A two-page summary of staffing patterns within acquisitions, including salary expenditures and average salaries by type of employee.
- Table VIII-C: Acquisitions Department--Ordering Patterns: Types of materials are examined, along with types of ordering performed (standing order, approval plans, order requests, gift exchange). Additionally, the year of imprint of materials expected to be ordered during the current year, percent of acquisitions for serial backfile supplement and monograph retrospective collection development are examined.
- Table IX-A: Cataloging Department--Budget Profile: A two-page summary of the budget for the current year, and resulting cost per throughput within the cataloging department by budget category, along with increases by budget category.

- Table IX-B: Cataloging Department--Staffing and Salary Expenditures: A summary of staffing patterns within cataloging department, title throughput per cataloging FTE, and related cataloging salary costs per throughput.
- Table IX-C: Cataloging Department--Cataloging Patterns: An overview of the types of materials cataloged annually, the cataloging source used, lag times, backlog, and cards per record entry. Proof slip subscriptions are also examined.
- Table X-A: Interlibrary Loan Department--Budget Profile: Two tables indicating departmental budget, and increases (or decreases) over previous year budgets, along with expenditures per request throughput (both borrowing and lending).
- Table X-B: Interlibrary Loan Department--Staffing and Salary Expenditures: A two-page summary of staffing patterns within interlibrary loan, including salary expenditures, average salaries by type of employee, volume and average salary cost per request (both borrowing and lending).
- Table X-C: Interlibrary Loan Department--Volume of Borrowing Requests: A summary of ILL borrowing requests, including fill rate, percent filled locally (a designation made by the participant to indicate geographical proximity for which interlibrary loan turnaround was lowest) and percent filled within the state of the participant.
- Table X-D: Interlibrary Loan--Number of Institutions Typically Queried: A synopsis of the number of libraries typically queried by respondents prior to a completed (filled or discontinued) request, indicating the mean and mode.
- Table X-E: Interlibrary Loan Department--Time Required to Fill a Request: A summary of the typical lag time of requests to completion through a bibliographic center, a local library, elsewhere in state, in adjoining states and elsewhere in the country.
- Table X-F: Interlibrary Loan Department--Verification Policies: A summary of the libraries reporting verification of borrowing and lending requests.

- Table X-G: Interlibrary Loan Department--Frequency of Borrowers
Table: A summary by type of library of the ten most frequent borrowers of materials from respondents, and observed ranks of these types of libraries.
- Table X-H: Interlibrary Loan Department--Frequency of Lenders
Table: A summary by type of library of the ten most frequent lenders of materials to respondents and the observed ranks of these types of libraries.
- Table X-I: Interlibrary Loan Department--Location of Borrowers
Table: A summary by location (local, elsewhere in state, adjoining states, other western states, elsewhere) of the ten most frequent borrowers of materials cited by respondents, and the observed ranks of these locations.
- Table X-J: Interlibrary Loan Department--Location of Lenders
Table: A summary by location (local, elsewhere in state, adjoining states, other western states, and elsewhere) of the ten most frequent lenders of materials to participants cited by respondents, and the observed ranks of these locations.
- Table X-K: Interlibrary Loan Department--Characteristics of Filled Borrowing Requests: A two-page report of volume of requests filled from the participating library collection by type of materials, and percentage loaned in original or duplicate form.
- Table X-L: Interlibrary Loan Department--Characteristics of Filled Lending Requests: A two-page summary of requests lent to the participating library by type of materials, form of loan and volume of filled requests.
- Table XI-A: Administration Department Budget Profile: Two tables indicating departmental operating budget for administration, and increases (or decreases) over previous year's expenditures, along with a summary of last year's expenditures in administration.
- Table XI-B: Administration Department--Staffing and Salary Expenditures: Two tables summarizing staffing patterns within library administration by type of employee, and indicating salary expenditures, and salary expenditures per total library staff.

A: SURVEY OF 100 LIBRARIES. LARGE ACADEMIC STRATUM
TABLE 1: HOLDINGS DISTRIBUTION
10 LIBRARIES INCLUDED

TYPE OF PUBLICATION	NUMBER OF LIBRARIES REPORTING	TITLES			STD DEV	GROWTH	NUMBER OF LIBRARIES REPORTING	VOLUMES			STD DEV	GROWTH
		AVERAGE	LOW	HIGH				AVERAGE	LOW	HIGH		
BOOKSTOCK	8	744104	378750	980000	177951.	0.06	10	1290306	473437	2040000	477456.	0.06
ROUND PERIODICALS	0	0	0	0	0.	0.0	3	220039	167377	254928	37888.	0.06
MICROFORM BOOKS	4	1147126	8505	1690000	665710.	0.11	0	0	0	0	0.	0.0
MICROFORM PERIODICALS	2	352	75	630	278.	0.25	0	0	0	0	0.	0.0
PRINTED GOVERNMENT DOCUMENTS	8	446328	89640	960000	305609.	0.07	0	0	0	0	0.	0.0
AUDIO / VISUAL MATERIALS	8	139461	2226	598084	196290.	0.08	0	0	0	0	0.	0.0
OTHER	3	137266	3700	359100	157293.	0.01	0	0	0	0	0.	0.0

TYPE OF PUBLICATION	NUMBER OF LIBRARIES REPORTING	VOLUME TO TITLE RATIO			STD DEV
		AVERAGE	LOW	HIGH	
BOOKSTOCK	8	1.62:1	1.15:1	2.10:1	0.35
ROUND PERIODICALS	0	0.0 :1	0.0 :1	0.0 :1	0.0

TABLE III: STAFFING DISTRIBUTION, ENTIRE LIBRARY
10 LIBRARIES INCLUDED

TYPE OF EMPLOYEE	NUMBER OF LIBRARIES REPORTING	FULL TIME EQUIVALENCIES			NUMBER OF LIBRARIES REPORTING	SALARY EXPENDITURES, \$		
		AVERAGE	LOW	HIGH		AVERAGE	LOW	HIGH
PROFESSIONAL LIBRARIAN	10	59.82	35.00	103.25	10	968213.	563440.	1817566.
				22.12				382695.
OTHER PROFESSIONAL	8	2.50	1.00	7.00	8	40433.	13600.	118908.
				2.12				34955.
LIBRARY ASSISTANT	10	107.27	35.00	299.00	10	989030.	273068.	3116925.
				75.18				809330.
CLERK	9	27.00	4.00	64.00	9	182397.	37644.	322966.
				18.75				98563.
STUDENT / PAGE	9	54.73	21.97	95.32	10	255030.	20200.	497672.
				23.42				140476.
OTHER	5	3.90	0.50	7.00	5	40363.	7524.	65768.
				2.27				23339.
STAFF PAID BY OUTSIDE SOURCES	7	12.59	0.50	31.62	0	0.	0.	0.
				12.56				0.
VOLUNTEER	1	0.25	0.25	0.25	0	0.	0.	0.
				0.0				0.

TYPE OF EMPLOYEE	NUMBER OF FTE REPORTED	AVERAGE SALARY PER FTE			NUMBER OF LIBRARIES REPORTING	FRINGE BENEFIT RATES		
		AVERAGE	LOW	HIGH		AVERAGE	LOW	HIGH
PROFESSIONAL LIBRARIAN	598.25	16184.	14086.	18561.	10	14.35%	11.00%	20.00%
				1748.				2.53
OTHER PROFESSIONAL	20.00	16173.	13600.	20000.	8	15.19%	11.00%	20.00%
				1550.				2.77
LIBRARY ASSISTANT	1072.70	9220.	5943.	10636.	10	14.86%	11.00%	20.00%
				1469.				3.03
CLERK	243.00	6755.	5046.	11083.	9	15.01%	11.00%	20.00%
				1765.				3.06
STUDENT / PAGE	492.54	5137.	3952.	8567.	6	3.84%	0.60%	10.10%
				1022.				3.24
OTHER	10.50	10349.	7037.	15048.	5	11.98%	0.61%	17.30%
				2330.				5.90

DEPT / TASK DESCRIPTION	NUMBER OF LIBRARIES USING OUTSIDE SUPPORT FOR THIS TASK		NUMBER OF LIBRARIES INDICATING SUPPORT FOR TASK DATA		AVERAGE	LOW	ANNUAL VOLUME		STD DEV
	THIS TASK	TASK DATA	THIS TASK	TASK DATA			LOW	HIGH	
ACQUISITIONS									
1. SEARCHING FOR NEW TITLES	3	2			33000.	14000.	50000.	17000.	
2. CHECKING THAT TITLES ARE NOT IN LIBRARY	0	0			0.	0.	0.	0.	
3. CHECKING THAT TITLES ARE NOT BACK- ORDERED	1	0			0.	0.	0.	0.	
4. PRODUCING ORDERS FOR MATERIALS	4	4			46325.	8555.	90000.	36579.	
5. PRODUCING CLAIM/CANCEL NOTICES	2	1			3500.	3500.	3500.	0.	
6. ENCUMBRANCE OF BUDGETED FUNDS	3	2			6100.	200.	12000.	5900.	
7. PRODUCING PAYMENTS TO VENDORS OR SUPPLIERS	0	0			0.	0.	0.	0.	
8. PRODUCING LISTS OF NEW ACQUISITIONS	2	2			26.	12.	40.	14.	
9. PERIODIC STATISTICS ON ACQUISITIONS	1	1			12.	12.	12.	0.	
10. OTHER ACQUISITION PRODUCTS	3	3			44344.	532.	99999.	41462.	
CATALOGING									
11. VERIFICATION THAT ITEM IS NOT CATALOGED	1	1			50000.	50000.	50000.	0.	
12. SEARCHING FOR CATALOGING DATA	5	3			34600.	19400.	50000.	12493.	
13. PRODUCING CATALOGING COPY	6	4			20725.	13000.	31000.	7585.	
14. PRODUCTION OF CATALOG CARDS	5	4			38650.	11400.	99999.	35745.	
15. PRODUCTION OF BOOK CATALOG	0	0			0.	0.	0.	0.	
16. PRODUCTION OF MICROFORM CATALOG	0	0			0.	0.	0.	0.	
17. PRODUCTION OF SHELF PREPARATION MATERIALS	1	1			99999.	99999.	99999.	0.	
18. CATALOG AUTHORITY CONTROL	2	1			3000.	3000.	3000.	0.	
19. PRODUCING SPECIALIZED BIBLIOGRAPHIES	1	1			150.	150.	150.	0.	
20. PRODUCING CATALOGING VOLUME STATISTICS	3	3			8341.	12.	25000.	11779.	
21. PRODUCING CATALOGING COST STATISTICS	0	0			0.	0.	0.	0.	
22. OTHER CATALOGING PRODUCTS	4	2			6000.	6000.	6000.	0.	

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE III: PROCESSING AND REFERENCE SUPPORT
 10 LIBRARIES INCLUDED
 1 LIBRARIES USING NO OUTSIDE SUPPORT
 9 LIBRARIES USING OUTSIDE SUPPORT
 0 LIBRARIES NOT RESPONDING

DEPT / LIBRARY TASK DESCRIPTION	NUMBER OF LIBRARIES USING OUTSIDE SUPPORT FOR THIS TASK	NUMBER OF LIBRARIES INDICATING TASK DATA	AVERAGE	LOW	ANNUAL VOLUME HIGH	STD DEV
INTER - LIBRARY LOAN						
23. VERIFICATION OF BIBLIOGRAPHIC INFORMATION	3	2	1525.	1200.	1850.	325.
24. LOCATING HOLDING LIBRARIES	4	2	689.	317.	1061.	372.
25. COMMUNICATING ILL REQUESTS TO LIBRARIES	1	1	239.	239.	239.	0.
26. MONITORING STATUS OF ILL REQUESTS	1	1	31.	31.	31.	0.
27. PAYING FOR ILL SERVICES	2	1	183.	183.	183.	0.
28. CHECKING AVAILABILITY OF TITLES IN YOUR LIBRARY	0	0	0.	0.	0.	0.
29. MONITORING THE STATUS OF LOANS	0	0	0.	0.	0.	0.
30. BILLING FOR ILL SERVICES	0	0	0.	0.	0.	0.
31. PERIODIC ILL STATISTICS	1	1	12.	12.	12.	0.
32. OTHER ILL PRODUCTS (SPECIFY)	2	2	2461.	455.	4467.	2006.
SERIALS						
33. CLAIMING OF LATE PERIODICAL ISSUES	1	1	12000.	12000.	12000.	0.
34. CANCELLING OF PERIODICAL SUBSCRIPTIONS	0	0	0.	0.	0.	0.
35. RENEWAL OF PERIODICAL SUBSCRIPTIONS	1	0	0.	0.	0.	0.
36. CONTROLLING OF PERIODICAL BINDING OPERATIONS	0	0	0.	0.	0.	0.
37. SERIALS CHECK-IN OF ISSUES	3	2	88600.	77200.	99999.	11400.
38. PAYING FOR EXISTING PERIODICAL SUBSCRIPTIONS	2	1	20000.	20000.	20000.	0.
39. OTHER SERIALS-ORIENTED PRODUCTS	7	2	18.	9.	26.	9.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE III: PROCESSING AND REFERENCE SUPPORT
10 LIBRARIES INCLUDED
1 LIBRARIES USING NO OUTSIDE SUPPORT
9 LIBRARIES USING OUTSIDE SUPPORT
0 LIBRARIES NOT RESPONDING

DEPT / LIBRARY TASK DESCRIPTION	NUMBER OF LIBRARIES USING OUTSIDE SUPPORT FOR THIS TASK	NUMBER OF LIBRARIES INDICATING AVAILABLE TASK DATA	AVERAGE	LOW	ANNUAL VOLUME HIGH	STD DEV
CIRCULATION						
40. MAINTAINING RECORDS OF USERS BORROWING MATERIALS	3	2	30963.	11925.	50000.	19038.
41. IDENTIFICATION OF CIRCULATING MATERIALS	2	1	99999.	99999.	99999.	0.
42. PLACING HOLDS ON CIRCULATING MATERIALS FOR USERS	1	1	4977.	4977.	4977.	0.
43. NOTIFYING USERS OF THE STATUS OF THEIR HOLDS	0	0	0.	0.	0.	0.
44. NOTIFYING USERS OF OVERDUE MATERIALS	2	1	12295.	12295.	12295.	0.
45. COMPUTING FINES FOR OVERDUE MATERIALS	1	1	36881.	36881.	36881.	0.
46. BILLING USERS FOR OVERDUE MATERIALS	1	1	12294.	12294.	12294.	0.
47. PRODUCING PERIODIC CIRCULATION VOLUME STATISTICS	2	1	276.	276.	276.	0.
48. PRODUCING CIRCULATION COST STATISTICS	0	0	0.	0.	0.	0.
49. OTHER CIRCULATION PRODUCTS	4	3	2527.	40.	6000.	2531.
REFERENCE						
50. DATA BASE SEARCHES UPON REQUEST	6	5	2397.	33.	7400.	2651.
51. PERIODIC, ON-GOING SEARCHES	5	4	944.	33.	2168.	921.
52. PRODUCING PRINTED CITATIONS	6	4	51534.	33.	99999.	48509.
53. BILLING FOR DATA BASE SERVICES	3	2	197.	33.	360.	164.
54. PRODUCTION OF USE STATISTICS	2	2	19.	4.	33.	15.
55. PRODUCTION OF COST STATISTICS	1	1	33.	33.	33.	0.
56. OTHER REFERENCE PRODUCTS (SPECIFY)	2	1	99.	99.	99.	0.
OTHER LIBRARY FUNCTION						
57. OTHER FUNCTIONS, TASKS, OR PRODUCTS	1	1	35000.	35000.	35000.	0.

TABLE III: PROCESSING AND REFERENCE SUPPORT
 10 LIBRARIES INCLUDED
 1 LIBRARIES USING NO OUTSIDE SUPPORT
 9 LIBRARIES USING OUTSIDE SUPPORT
 0 LIBRARIES NOT RESPONDING

DEPT / TASK DESCRIPTION	NUMBER OF LIBRARIES USING OUTSIDE SUPPORT FOR THIS TASK	NUMBER OF LIBRARIES INDICATING SUPPORT FOR TASK DATA	AVERAGE	LOW	ANNUAL COST, \$ HIGH	STD DEV
ACQUISITIONS						
1. SEARCHING FOR NEW TITLES	3	2	6954.	3908.	10000.	3046.
2. CHECKING THAT TITLES ARE NOT IN LIBRARY	0	0	0.	0.	0.	0.
3. CHECKING THAT TITLES ARE NOT BACK- ORDERED	1	1	300.	300.	300.	0.
4. PRODUCING ORDERS FOR MATERIALS	4	1	8000.	8000.	8000.	0.
5. PRODUCING CLAIM/CANCEL NOTICES	2	0	0.	0.	0.	0.
6. ENCUMBRANCE OF BUDGETED FUNDS	3	0	0.	0.	0.	0.
7. PRODUCING PAYMENTS TO VENDORS OR SUPPLIERS	0	0	0.	0.	0.	0.
8. PRODUCING LISTS OF NEW ACQUISITIONS	2	1	5000.	5000.	5000.	0.
9. PERIODIC STATISTICS ON ACQUISITIONS	1	0	0.	0.	0.	0.
10. OTHER ACQUISITION PRODUCTS	3	2	9808.	7615.	12000.	2193.
CATALOGING						
11. VERIFICATION THAT ITEM IS NOT CATALOGED	1	0	0.	0.	0.	0.
12. SEARCHING FOR CATALOGING DATA	5	0	0.	0.	0.	0.
13. PRODUCING CATALOGING COPY	6	1	35740.	35740.	35740.	0.
14. PRODUCTION OF CATALOG CARDS	5	2	27550.	5100.	50000.	22450.
15. PRODUCTION OF BOOK CATALOG	0	0	0.	0.	0.	0.
16. PRODUCTION OF MICROFORM CATALOG	0	0	0.	0.	0.	0.
17. PRODUCTION OF SHELF PREPARATION MATERIALS	1	0	0.	0.	0.	0.
18. CATALOG AUTHORITY CONTROL	2	0	0.	0.	0.	0.
19. PRODUCING SPECIALIZED BIBLIOGRAPHIES	1	1	3000.	3000.	3000.	0.
20. PRODUCING CATALOGING VOLUME STATISTICS	3	0	0.	0.	0.	0.
21. PRODUCING CATALOGING COST STATISTICS	0	0	0.	0.	0.	0.
22. OTHER CATALOGING PRODUCTS	4	2	10125.	250.	20000.	9875.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE III: PROCESSING AND REFERENCE SUPPORT
 10 LIBRARIES INCLUDED
 1 LIBRARIES USING NO OUTSIDE SUPPORT
 9 LIBRARIES USING OUTSIDE SUPPORT
 0 LIBRARIES NOT RESPONDING

DEPT / LIBRARY TASK DESCRIPTION	NUMBER OF LIBRARIES USING OUTSIDE SUPPORT FOR THIS TASK	NUMBER OF LIBRARIES INDICATING SUPPORT FOR AVAILABLE TASK DATA	AVERAGE	LOW	ANNUAL COST, \$ HIGH	STD DEV
INTER - LIBRARY LOAN						
23. VERIFICATION OF BIBLIOGRAPHIC INFORMATION	3	0	0.	0.	0.	0.
24. LOCATING HOLDING LIBRARIES	4	1	2500.	2500.	2500.	0.
25. COMMUNICATING ILL REQUESTS TO LIBRARIES	1	0	0.	0.	0.	0.
26. MONITORING STATUS OF ILL REQUESTS	1	0	0.	0.	0.	0.
27. PAYING FOR ILL SERVICES	2	0	0.	0.	0.	0.
28. CHECKING AVAILABILITY OF TITLES IN YOUR LIBRARY	0	0	0.	0.	0.	0.
29. MONITORING THE STATUS OF LOANS	0	0	0.	0.	0.	0.
30. BILLING FOR ILL SERVICES	0	0	0.	0.	0.	0.
31. PERIODIC ILL STATISTICS	1	1	1800.	1800.	1800.	0.
32. OTHER ILL PRODUCTS (SPECIFY)	2	2	10457.	8191.	12722.	2266.
SERIALS						
33. CLAIMING OF LATE PERIODICAL ISSUES	1	0	0.	0.	0.	0.
34. CANCELLING OF PERIODICAL SUBSCRIPTIONS	0	0	0.	0.	0.	0.
35. RENEWAL OF PERIODICAL SUBSCRIPTIONS	1	0	0.	0.	0.	0.
36. CONTROLLING OF PERIODICAL BINDING OPERATIONS	0	0	0.	0.	0.	0.
37. SERIALS CHECK-IN OF ISSUES	3	1	18000.	18000.	18000.	0.
38. PAYING FOR EXISTING PERIODICAL SUBSCRIPTIONS	2	0	0.	0.	0.	0.
39. OTHER SERIALS-ORIENTED PRODUCTS	7	2	23000.	16000.	30000.	7000.

A: SUPPLY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

 TABLE III: PROCESSING AND REFERENCE SUPPORT
 10 LIBRARIES INCLUDED
 1 LIBRARIES USING NO OUTSIDE SUPPORT
 9 LIBRARIES USING OUTSIDE SUPPORT
 0 LIBRARIES NOT RESPONDING

DEPT / LIBRARY TASK DESCRIPTION	NUMBER OF LIBRARIES USING OUTSIDE SUPPORT FOR THIS TASK	NUMBER OF LIBRARIES INDICATING AVAILABLE TASK DATA	AVERAGE	LOW	ANNUAL COST, \$ HIGH	STD DEV
CIRCULATION						
40. MAINTAINING RECORDS OF USERS BORROWING MATERIALS	3	1	7597.	7597.	7597.	0.
41. IDENTIFICATION OF CIRCULATING MATERIALS	2	1	7597.	7597.	7597.	0.
42. PLACING HOLDS ON CIRCULATING MATERIALS FOR USERS	1	1	7597.	7597.	7597.	0.
43. NOTIFYING USERS OF THE STATUS OF THEIR HOLDS	0	0	0.	0.	0.	0.
44. NOTIFYING USERS OF OVERDUE MATERIALS	2	1	7597.	7597.	7597.	0.
45. COMPUTING FINES FOR OVERDUE MATERIALS	1	1	7597.	7597.	7597.	0.
46. BILLING USERS FOR OVERDUE MATERIALS	1	1	7597.	7597.	7597.	0.
47. PRODUCING PERIODIC CIRCULATION VOLUME STATISTICS	2	1	7597.	7597.	7597.	0.
48. PRODUCING CIRCULATION COST STATISTICS	0	0	0.	0.	0.	0.
49. OTHER CIRCULATION PRODUCTS	4	3	31884.	360.	72500.	30145.
REFERENCE						
50. DATA BASE SEARCHES UPON REQUEST	6	3	11978.	4220.	25000.	9264.
51. PERIODIC, ON-GOING SEARCHES	5	2	4170.	2000.	6340.	2170.
52. PRODUCING PRINTED CITATIONS	6	1	1139.	1139.	1139.	0.
53. BILLING FOR DATA BASE SERVICES	3	1	282.	282.	282.	0.
54. PRODUCTION OF USE STATISTICS	2	1	72.	72.	72.	0.
55. PRODUCTION OF COST STATISTICS	1	0	0.	0.	0.	0.
56. OTHER REFERENCE PRODUCTS (SPECIFY)	2	0	0.	0.	0.	0.
OTHER LIBRARY FUNCTION						
57. OTHER FUNCTIONS, TASKS OR PRODUCTS	1	1	6000.	6000.	6000.	0.

DEPT / LIBRARY TASK DESCRIPTION	NUMBER OF LIBRARIES USING OUTSIDE SUPPORT FOR THIS TASK		AVERAGE	ANNUAL COST PER VOLUME, \$		STD DEV
	TASK DATA	TASK DATA		LOW	HIGH	
ACQUISITIONS						
1. SEARCHING FOR NEW TITLES	3	1	0.24	0.24	0.24	0.0
2. CHECKING THAT TITLES ARE NOT IN LIBRARY	0	0	0.0	0.0	0.0	0.0
3. CHECKING THAT TITLES ARE NOT BACK- ORDERED	1	0	0.0	0.0	0.0	0.0
4. PRODUCING ORDERS FOR MATERIALS	4	1	0.11	0.11	0.11	0.0
5. PRODUCING CLAIM/CANCEL NOTICES	2	0	0.0	0.0	0.0	0.0
6. ENCUMBRANCE OF BUDGETED FUNDS	3	0	0.0	0.0	0.0	0.0
7. PRODUCING PAYMENTS TO VENDORS OR SUPPLIERS	0	0	0.0	0.0	0.0	0.0
8. PRODUCING LISTS OF NEW ACQUISITIONS	2	1	125.00	125.00	125.00	0.0
9. PERIODIC STATISTICS ON ACQUISITIONS	1	0	0.0	0.0	0.0	0.0
10. OTHER ACQUISITION PRODUCTS	3	2	0.14	0.12	0.23	0.06
CATALOGING						
11. VERIFICATION THAT ITEM IS NOT CATALOGED	1	0	0.0	0.0	0.0	0.0
12. SEARCHING FOR CATALOGING DATA	5	0	0.0	0.0	0.0	0.0
13. PRODUCING CATALOGING COPY	6	0	0.0	0.0	0.0	0.0
14. PRODUCTION OF CATALOG CARDS	5	1	2.00	2.00	2.00	0.0
15. PRODUCTION OF BOOK CATALOG	0	0	0.0	0.0	0.0	0.0
16. PRODUCTION OF MICROFORM CATALOG	0	0	0.0	0.0	0.0	0.0
17. PRODUCTION OF SHELF PREPARATION MATERIALS	1	0	0.0	0.0	0.0	0.0
18. CATALOG AUTHORITY CONTROL	2	0	0.0	0.0	0.0	0.0
19. PRODUCING SPECIALIZED BIBLIOGRAPHIES	1	1	20.00	20.00	20.00	0.0
20. PRODUCING CATALOGING VOLUME STATISTICS	3	0	0.0	0.0	0.0	0.0
21. PRODUCING CATALOGING COST STATISTICS	0	0	0.0	0.0	0.0	0.0
22. OTHER CATALOGING PRODUCTS	4	1	3.33	3.33	3.33	0.0

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

 TABLE III: PROCESSING AND REFERENCE SUPPORT
 10 LIBRARIES INCLUDED
 1 LIBRARIES USING NO OUTSIDE SUPPORT
 9 LIBRARIES USING OUTSIDE SUPPORT
 0 LIBRARIES NOT RESPONDING

DEPT / LIBRARY TASK DESCRIPTION	USING OUTSIDE SUPPORT FOR THIS TASK	NUMBER OF LIBRARIES INDICATING AVAILABLE TASK DATA	AVERAGE	ANNUAL COST PER VOLUME, \$		STD DEV
				LOW	HIGH	
INTER - LIBRARY LOAN						
23. VERIFICATION OF BIBLIOGRAPHIC INFORMATION	3	0	0.0	0.0	0.0	0.0
24. LOCATING HOLDING LIBRARIES	4	1	2.36	2.36	2.36	0.0
25. COMMUNICATING ILL REQUESTS TO LIBRARIES	1	0	0.0	0.0	0.0	0.0
26. MONITORING STATUS OF ILL REQUESTS	1	0	0.0	0.0	0.0	0.0
27. PAYING FOR ILL SERVICES	2	0	0.0	0.0	0.0	0.0
28. CHECKING AVAILABILITY OF TITLES IN YOUR LIBRARY	0	0	0.0	0.0	0.0	0.0
29. MONITORING THE STATUS OF LOANS	0	0	0.0	0.0	0.0	0.0
30. BILLING FOR ILL SERVICES	0	0	0.0	0.0	0.0	0.0
31. PERIODIC ILL STATISTICS	1	1	150.00	150.00	150.00	0.0
32. OTHER ILL PRODUCTS (SPECIFY)	2	2	10.43	2.85	18.00	7.58
SERIALS						
33. CLAIMING OF LATE PERIODICAL ISSUES	1	0	0.0	0.0	0.0	0.0
34. CANCELLING OF PERIODICAL SUBSCRIPTIONS	0	0	0.0	0.0	0.0	0.0
35. RENEWAL OF PERIODICAL SUBSCRIPTIONS	1	0	0.0	0.0	0.0	0.0
36. CONTROLLING OF PERIODICAL BINDING OPERATIONS	0	0	0.0	0.0	0.0	0.0
37. SERIALS CHECK-IN OF ISSUES	3	1	0.23	0.23	0.23	0.0
38. PAYING FOR EXISTING PERIODICAL SUBSCRIPTIONS	2	0	0.0	0.0	0.0	0.0
39. OTHER SERIALS-ORIENTED PRODUCTS	7	0	0.0	0.0	0.0	0.0

A: SURVEY OF 100 LIBRARIES. LARGE ACADEMIC STRATUM

TABLE III: PROCESSING AND REFERENCE SUPPORT
 10 LIBRARIES INCLUDED
 1 LIBRARIES USING NO OUTSIDE SUPPORT
 9 LIBRARIES USING OUTSIDE SUPPORT
 0 LIBRARIES NOT RESPONDING

DEPT / LIBRARY TASK DESCRIPTION	NUMBER OF LIBRARIES USING OUTSIDE SUPPORT FOR THIS TASK		INDICATING AVAILABLE TASK DATA	AVERAGE	ANNUAL COST PER VOLUME, \$		STD DEV
					LOW	HIGH	
CIRCULATION							
40. MAINTAINING RECORDS OF USERS BORROWING MATERIALS	3	1		0.64	0.64	0.64	0.0
41. IDENTIFICATION OF CIRCULATING MATERIALS	2	1		0.09	0.08	0.08	0.0
42. PLACING HOLDS ON CIRCULATING MATERIALS FOR USERS	1	1		1.53	1.53	1.53	0.0
43. NOTIFYING USERS OF THE STATUS OF THEIR HOLDS	0	0		0.0	0.0	0.0	0.0
44. NOTIFYING USERS OF OVERDUE MATERIALS	2	1		0.62	0.62	0.62	0.0
45. COMPUTING FINES FOR OVERDUE MATERIALS	1	1		0.21	0.21	0.21	0.0
46. BILLING USERS FOR OVERDUE MATERIALS	1	1		0.62	0.62	0.62	0.0
47. PRODUCING PERIODIC CIRCULATION VOLUME STATISTICS	2	1		27.53	27.53	27.53	0.0
48. PRODUCING CIRCULATION COST STATISTICS	0	0		0.0	0.0	0.0	0.0
49. OTHER CIRCULATION PRODUCTS	4	2		284.92	0.06	569.77	284.86
REFERENCE							
50. DATA BASE SEARCHES UPON REQUEST	6	3		7.39	4.85	9.51	1.93
51. PERIODIC, ON-GOING SEARCHES	5	2		14.80	2.92	26.67	11.87
52. PRODUCING PRINTED CITATIONS	6	1		0.01	0.01	0.01	0.0
53. BILLING FOR DATA BASE SERVICES	3	1		0.78	0.78	0.78	0.0
54. PRODUCTION OF USE STATISTICS	2	1		18.00	18.00	18.00	0.0
55. PRODUCTION OF COST STATISTICS	1	0		0.0	0.0	0.0	0.0
56. OTHER REFERENCE PRODUCTS (SPECIFY)	2	0		0.0	0.0	0.0	0.0
OTHER LIBRARY FUNCTION							
57. OTHER FUNCTIONS, TASKS, OR PRODUCTS	1	1		0.17	0.17	0.17	0.0

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE IV: UNIQUE COMPUTER SUPPORT
10 LIBRARIES INCLUDED

SYSTEM FUNCTION	NUMBER OF LIBRARIES REPORTING	AVERAGE	COST OF DEVELOPMENT LOW	HIGH	STD DEV	NUMBER OF LIBRARIES REPORTING	AVERAGE	COST OF ANNUAL MAINTENANCE LOW	HIGH	STD DEV
CIRCULATION	2	22653.	500.	44805.	22152.	4	45609.	500.	100000.	41907.
ACQUISITIONS	2	8000.	1000.	15000.	7000.	4	40021.	7615.	131000.	52545.
INTER - LIBRARY LOAN	1	1000.	1000.	1000.	0.	1	500.	500.	500.	0.
SERIALS	2	12000.	12000.	12000.	0.	4	30765.	3060.	87000.	33021.
INVENTORY CONTROL	0	0.	0.	0.	0.	1	6000.	6000.	6000.	0.
CATALOGING	0	0.	0.	0.	0.	0	0.	0.	0.	0.
PROCESSING	0	0.	0.	0.	0.	0	0.	0.	0.	0.
ACCOUNTING	0	0.	0.	0.	0.	2	12490.	980.	24000.	11510.

A: SURVEY OF 100 LIBRARIES LARGE ACADEMIC STRATUM
TABLE V: EQUIPMENT AND COMMUNICATIONS COSTS
10 LIBRARIES INCLUDED

EQUIPMENT CATEGORY	NUMBER OF LIBRARIES REPORTING	ANNUAL COSTS			STD DEV
		AVERAGE	LOW	HIGH	
1. COPYING	9	51944.	5000.	180846.	63056.
2. TELEX	0	0.	0.	0.	0.
3. TELETYPE, TWX	7	2209.	850.	3000.	651.
4. DATATEL	1	1046.	1046.	1046.	0.
5. OTHER TELETYPE SERVICE	0	0.	0.	0.	0.
6. FAX	0	0.	0.	0.	0.
7. DATAPHONE	1	1200.	1200.	1200.	0.
8. CRT	4	10368.	240.	37560.	15729.
9. LINE CHARGES TO COMPUTER	1	500.	500.	500.	0.
10. TELEPHONE OTHER THAN ABOVE	9	10656.	615.	24572.	7287.
11. OTHER COMMUNICATIONS COSTS	2	1198.	185.	2211.	1013.
12. TOTAL	10	62553.	14454.	194646.	60725.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE VI: BUDGET AND EXPENDITURE PATTERNS,
10 LIBRARIES INCLUDED

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	AVERAGE	TOTAL LIBRARY LOW	HIGH	STD DEV	NUMBER OF LIBRARIES REPORTING	INCREASE OVER LAST YEAR'S AVERAGE	LOW	HIGH	STD DEV
CAPITAL EXPENDITURE	7	2550157.	8000.	10720287.	4117577.	7	2920789.	-69649.	10665992.	4306710.
TOTAL MATERIALS	10	1224067.	364000.	1855087.	417625.	10	157172.	65261.	364428.	100233.
BOOKSTOCK	5	732037.	515902.	1031600.	195278.	5	86519.	-42434.	304428.	116859.
PERIODICALS	6	583196.	360000.	1053437.	233698.	6	116033.	60000.	184581.	50611.
MICROFORM	1	29384.	29384.	29384.	0.	1	-31856.	-31856.	-31856.	0.
GOVERNMENT DOCUMENTS	4	11420.	6275.	20000.	5286.	4	3896.	-575.	7263.	3294.
AUDIO - VISUAL	4	15758.	10000.	31000.	8825.	4	-4164.	-8951.	1121.	3594.
OTHER MATERIALS	1	1400.	1400.	1400.	0.	1	825.	825.	825.	0.
TOTAL OPERATING	10	2991049.	1369353.	7133462.	1718513.	10	245106.	83577.	504626.	127467.
SALARIES AND FINANCIAL BENEFITS	10	2740504.	1240897.	6648692.	1583950.	10	242437.	71798.	529742.	136419.
AUTOMATED SYSTEMS	4	53761.	7540.	99077.	28343.	8	28818.	-1039.	56500.	18985.
OTHER SUPPORT SERVICES	6	91597.	6700.	365252.	124873.	5	-17488.	-60355.	4079.	23521.
EQUIPMENT RENTAL	10	14070.	400.	30000.	9303.	10	457.	-7547.	7676.	4556.
COMMUNICATIONS	9	16138.	7536.	33200.	7958.	9	1728.	-374.	7400.	2410.
SUPPLIES	10	39722.	16147.	73485.	18136.	10	-38629.	-346447.	8373.	109014.
OTHER OPERATING	7	120376.	3235.	264962.	108224.	4	-20639.	-49144.	4436.	23575.
TOTAL LIBRARY BUDGET	10	6000225.	2153400.	14062340.	3840516.	10	2348115.	136649.	10867988.	3722183.

2 LIBRARIES INDICATING NEW BUILDING INCLUDED IN CAPITAL BUDGET

A: SUPPLY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM
TABLE VIA: BUDGET AND EXPENDITURE PATTERNS: DEPARTMENTAL ALLOCATIONS
10 LIBRARIES INCLUDED

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	PERCENT ALLOCATED TO: ADMINISTRATION			STD DEV	NUMBER OF LIBRARIES REPORTING	PERCENT ALLOCATED TO: ACQUISITIONS			STD DEV
		AVERAGE	LOW	HIGH			AVERAGE	LOW	HIGH	
TOTAL OPERATING	10	9.02%	3.31%	19.18%	4.07	9	8.92%	3.26%	14.47%	2.90
SALARIES AND FRINGE BENEFITS	10	9.17%	3.55%	18.48%	3.71	9	9.51%	3.50%	15.32%	3.07
AUTOMATED SYSTEMS	1	15.26%	15.26%	15.26%	0.0	1	58.21%	58.21%	58.21%	0.0
OTHER SUPPORT SERVICES	4	12.16%	3.33%	31.55%	11.53	3	10.08%	3.52%	18.97%	6.52
EQUIPMENT RENTAL	3	59.91%	9.94%	92.00%	35.78	0	0.0 %	0.0 %	0.0 %	0.0
COMMUNICATIONS	4	35.98%	11.00%	100.00%	37.04	3	6.83%	3.09%	9.34%	2.69
SUPPLIES	4	3.87%	2.43%	5.66%	1.19	5	8.39%	3.00%	15.10%	4.03
OTHER OPERATING	1	6.18%	6.18%	6.18%	0.0	1	14.53%	14.53%	14.53%	0.0
TOTAL LIBRARY BUDGET	10	5.33%	1.04%	12.19%	3.16	9	5.08%	0.94%	7.83%	2.15

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE VIA: BUDGET AND EXPENDITURE PATTERNS: DEPARTMENTAL ALLOCATIONS
10 LIBRARIES INCLUDED

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	PERCENT ALLOCATED TO:			STD DEV	NUMBER OF LIBRARIES REPORTING	PERCENT ALLOCATED TO:			STD DEV
		AVERAGE	LOW	HIGH			AVERAGE	LOW	HIGH	
TOTAL OPERATING	9	15.68%	7.97%	19.98%	4.29	9	6.38%	2.89%	8.89%	1.75
SALARIES AND FRINGE BENEFITS	9	16.24%	8.34%	22.44%	4.53	9	6.75%	3.10%	9.45%	1.83
AUTOMATED SYSTEMS	3	51.35%	11.58%	86.59%	30.79	2	34.01%	31.20%	36.82%	2.81
OTHER SUPPORT SERVICES	3	17.93%	3.52%	28.21%	10.49	3	3.44%	1.03%	5.77%	1.94
EQUIPMENT RENTAL	3	43.48%	8.20%	100.00%	40.37	0	0.0 %	0.0 %	0.0 %	0.0
COMMUNICATIONS	3	5.98%	1.86%	9.69%	3.21	3	3.93%	2.00%	5.46%	1.44
SUPPLIES	5	16.78%	5.66%	32.14%	9.99	5	5.76%	1.13%	15.10%	5.15
OTHER OPERATING	1	29.37%	29.37%	29.37%	0.0	1	4.95%	4.95%	4.95%	0.0
TOTAL LIBRARY BUDGET	9	8.99%	2.45%	14.80%	4.19	9	3.83%	0.86%	6.58%	2.01

A1: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM
TABLE VIA: BUDGET AND EXPENDITURE PATTERNS: DEPARTMENTAL ALLOCATIONS
10 LIBRARIES INCLUDED

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	PERCENT ALLOCATED TO: INTER - LIBRARY LOAN			STD DEV	NUMBER OF LIBRARIES REPORTING	PERCENT ALLOCATED TO: MATERIALS FINISHING			STD DEV
		AVERAGE	LOW	HIGH			AVERAGE	LOW	HIGH	
TOTAL	9	1.98%	1.14%	3.25%	0.62	9	4.22%	1.10%	9.17%	3.07
OPERATING	9	1.98%	1.14%	3.25%	0.62	9	4.22%	1.10%	9.17%	3.07
SALARIES AND FRINGE BENEFITS	9	2.03%	1.23%	3.06%	0.54	9	3.76%	1.14%	9.60%	2.98
AUTOMATED SYSTEMS	1	4.14%	4.14%	4.14%	0.0	0	0.0%	0.0%	0.0%	0.0
OTHER SUPPORT SERVICES	3	5.15%	1.06%	10.26%	3.82	3	25.42%	1.18%	68.45%	30.51
EQUIPMENT RENTAL	1	10.60%	10.60%	10.60%	0.0	1	8.00%	8.00%	8.00%	0.0
COMMUNICATIONS	3	10.10%	1.30%	18.56%	7.05	3	2.20%	0.97%	4.33%	1.51
SUPPLIES	4	2.57%	1.26%	5.66%	1.81	5	14.53%	3.64%	21.07%	6.93
OTHER OPERATING	2	2.93%	1.23%	4.64%	1.70	1	3.25%	3.25%	3.25%	0.0
TOTAL LIBRARY BUDGET	9	1.23%	0.17%	2.06%	0.61	9	2.84%	0.26%	7.73%	2.57

A: SURVEY OF 100 LIBRARIES. LARGE ACADEMIC STRATUM

TABLE VII: REGIONAL LIBRARY SUMMARY

10 LIBRARIES INCLUDED

A: SERVICES PROVIDED BY REGIONAL LIBRARIES

TYPE OF SERVICE	NUMBER IN THIS STRATUM PROVIDING REGIONAL SERVICE		PERCENT PROVIDING THIS SERVICE
	NUMBER IN THIS STRATUM PROVIDING THIS SERVICE		
ACQUISITIONS			
1. MAINTAIN STANDING ORDERS	7	0	0.0%
2. PAYMENT PROCESSING	7	0	0.0%
3. COLLECTION DEVELOPMENT	7	0	0.0%
4. CLAIM BACKORDERED ITEMS	7	0	0.0%
5. RETURNS	7	0	0.0%
6. CANCELLATIONS	7	0	0.0%
7. OTHER	7	0	0.0%
CATALOGING			
8. PRODUCE CARD SETS	7	1	14.3%
9. PHYSICAL PROCESSING	7	0	0.0%
10. PROVIDE CATALOGING COPY	7	2	28.6%
11. PRODUCE CATALOGS	7	1	14.3%
12. OTHER	7	0	0.0%
INTER - LIBRARY LOAN			
13. PROVIDE LOCATIONS	7	3	42.9%
14. VERIFICATION	7	4	57.1%
15. ACT AS SWITCHING CENTER	7	4	57.1%
16. OTHER	7	2	28.6%
REFERENCE			
17. DATA BASE SEARCHES	7	3	42.9%
18. REFERRAL SERVICES	7	1	14.3%
19. OTHER	7	2	28.6%
OTHER			
20. MAINTAIN A UNION CATALOG	7	1	14.3%
21. OTHER REGIONAL SERVICES	7	0	0.0%
NONE			
22. NO REGIONAL SERVICES	7	0	0.0%

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE VII: REGIONAL LIBRARY SUMMARY

10 LIBRARIES INCLUDED

B: TYPES OF LIBRARIES SUPPORTED

TYPE OF LIBRARY	NUMBER OF LIBRARIES REPORTING	AVERAGE	NUMBER OF LIBRARIES SUPPORTED		STD DEV
			LOW	HIGH	
PUBLIC	3	48.	13.	65.	24.51
ACADEMIC	4	9.	2.	12.	4.09
SCHOOL	2	99.	99.	99.	0.0
SPECIAL	2	68.	68.	68.	0.0
TOTAL	5	102.	2.	244.	115.67

**99. INDICATES 99 OR MORE LIBRARIES SUPPORTED

A: SURVEY OF 100 LIBRARIES. LARGE ACADEMIC STRATUM

TABLE VII: REGIONAL LIBRARY SUMMARY
10 LIBRARIES INCLUDED
C: REGIONAL INTERLIBRARY LOAN

REQUESTS	NUMBER OF LIBRARIES REPORTING	AVERAGE	VOLUME DURING THE LAST REPORTING YEAR		STD DEV
			LOW	HIGH	
TOTAL REQUESTS	3	18472.	2913.	44850.	18752.
FILLED REQUESTS	3	14132.	961.	37226.	16383.
FILL RATE	3	57.8	33.8	83.8	20.46
% FILLED FROM LIBRARY	3	57.8	33.8	82.8	20.0
% FILLED FROM ANOTHER LIBRARY	1	1.8	1.8	1.8	0.0
% FORWARDED TO STAFF LIBRARY	1	8.8	8.8	8.8	0.0
% FORWARDED TO LIBRARY OUTSIDE REGION	2	12.8	10.8	13.8	1.5
% FORWARDED TO A BIBLIOGRAPHIC CENTER	1	67.8	67.8	67.8	0.0
% RETURNED TO REQUESTER WITH LOCATION INFORMATION	2	11.8	2.8	20.8	9.0
% RETURNED TO REQUESTER UNFILLED	2	2.8	1.8	3.8	1.0
% UNFILLED	2	16.8	5.8	27.8	11.0

A: SURVEY OF 100 LIBRARIES. LARGE ACADEMIC STRATUM

TABLE VII: REGIONAL LIBRARY SUMMARY

10 LIBRARIES INCLUDED

D: REGIONAL CATALOG MAINTENANCE

TYPE OF HOLDINGS		NUMBER OF LIBRARIES PROVIDING CATALOG	AVERAGE	CATALOG SIZE.ETC.		STD DEV
				LOW	HIGH	

MONOGRAPHS	1					
SERIALS	1					
OTHER	0					
COMBINF	1					

TITLES	1		21362.00	21362.00	21362.00	0.0
TITLES ADDED	1		4272.00	4272.00	4272.00	0.0
LOCATIONS	1		17.00	17.00	17.00	0.0
LOCATIONS PER TITLE	1		17.00	17.00	17.00	0.0
YEARS IN EXISTENCE	1		6.00	6.00	6.00	0.0

TABLE VII: REGIONAL LIBRARY SUMMARY

10 LIBRARIES INCLUDED

E: REIMBURSEMENT

6 LIBRARIES RECEIVING REIMBURSEMENT

CHARACTERISTICS OF REIMBURSEMENTS	NUMBER OF LIBRARIES RECEIVING	AVERAGE	AMOUNT LOW	HIGH	STD DEV
GENERAL					
SALARIES FOR HQS STAFF	5	19450.00	2400.00	78871.00	29679.43
ANNUAL SUPPLY SUPPLEMENT	3	2902.67	908.00	4600.00	2617.13
ANNUAL EQUIPMENT SUPPLMT	1	50.00	50.00	50.00	0.0
ANNUAL STIPEND	0	0.0	0.0	0.0	0.0
CATALOGING					
PER VOLUME PROCESSED	0	0.0	0.0	0.0	0.0
PER CARD SET	1	0.85	0.85	0.85	0.0
PER ENTRY IN CATALOG	0	0.0	0.0	0.0	0.0
ACQUISITIONS					
PER VOLUME ORDERED	0	0.0	0.0	0.0	0.0
INTER - LIBRARY LOAN					
PER FILLED REQUEST	2	0.10	0.10	0.10	0.0
PER UNFILLED REQUEST	1	0.50	0.50	0.50	0.0
PER REQUEST FOR LOC INFO	0	0.0	0.0	0.0	0.0
OTHER	4	6019.75	53.00	20225.00	8240.59
SOURCE OF REIMBURSEMENT					
STATE LIBRARIES	3	98.00%	94.00%	100.00%	2.83
PARTICIPATING LIBRARIES	2	75.00%	50.00%	100.00%	25.00
OTHER	4	63.50%	6.00%	99.00%	38.76

A: SURVEY OF 100 LIBRARIES, LARGER ACADEMIC STRATUM

TABLE VIII: ACQUISITIONS DEPARTMENT
IN LIBRARIES INCLUDED
A: BUDGET PROFILE

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	DEPARTMENT LOW	HIGH	STD DEV	NUMBER OF LIBRARIES REPORTING	INCREASE OVER AVERAGE	LAST YEAR'S LOW	HIGH	EXPENDITURES STD DEV
TOTAL OPERATING	9	246225.	341234.	90577.	9	15479.	-47163.	56405.	27743.
SALARIES AND FRINGE BENEFITS	9	239406.	341234.	86529.	9	13443.	-59025.	55408.	31141.
AUTOMATED SYSTEMS	1	25300.	25300.	0.	1	13000.	13000.	13000.	0.
OTHER SUPPORT SERVICES	3	3970.	4504.	1473.	3	223.	161.	275.	47.
EQUIPMENT RENTAL	0	0.	0.	0.	0	0.	0.	0.	0.
COMMUNICATIONS	3	1139.	2077.	674.	3	119.	107.	131.	12.
SUPPLIES	5	3155.	5476.	1616.	5	-25.	-1136.	620.	611.
OTHER OPERATING	1	470.	470.	0.	1	106.	106.	106.	0.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE VIII: ACQUISITIONS DEPARTMENT
10 LIBRARIES INCLUDED
A: BUDGET PROFILE

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	LAST YEAR'S EXPENDITURES			STD DEV	NUMBER OF LIBRARIES REPORTING	EXPENDITURE PRO THROUGHPUT			STD DEV
		AVERAGE	LOW	HIGH			AVERAGE	LOW	HIGH	
TOTAL OPERATING	9	232289.	97747.	424653.	96408.	9	4.84	2.81	14.11	2.75
SALARIES AND FRINGE BENEFITS	9	227512.	91769.	404015.	93231.	9	4.74	2.80	13.54	2.61
AUTOMATED SYSTEMS	2	6953.	1405.	12300.	5344.	2	0.19	0.04	0.41	0.14
OTHER SUPPORT SERVICES	3	3747.	1468.	6348.	2005.	3	0.10	0.06	0.15	0.04
EQUIPMENT RENTAL	0	0.	0.	0.	0.	0	0.0	0.0	0.0	0.0
COMMUNICATIONS	3	1060.	500.	1946.	634.	3	0.03	0.02	0.05	0.01
SUPPLIES	5	3181.	589.	4456.	1603.	5	0.09	0.01	0.16	0.05
OTHER OPERATING	1	364.	364.	364.	0.	1	0.01	0.01	0.01	0.0

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE VIII: ACQUISITIONS DEPARTMENT

10 LIBRARIES INCLUDED
P: STAFFING AND SALARY EXPENDITURES

TYPE OF EMPLOYEE	NUMBER OF FTE REPORTED	VOLUME THROUGHPUT		PER ACQ FTE		NUMBER OF LIBRARIES REPORTING	ACQ SAL \$ EXP PER VOLUME		ANNUAL THROUGHPUT	
		AVERAGE	LOW	HIGH	STD DEV		AVERAGE	LOW	HIGH	STD DEV
PROFESSIONAL LIBRARIAN	36.60	12130.87	4300.29	52423.00	9308.44	10	1.52	0.33	3.47	0.93
OTHER PROFESSIONAL	1.00	30102.00	30102.00	30102.00	0.0	1	0.49	0.49	0.49	0.0
LIBRARY ASSISTANT	117.75	3770.61	1920.00	14866.66	1939.42	10	2.47	0.54	4.11	0.94
CLERK	28.50	8643.04	2400.00	43047.00	9000.17	7	1.09	0.22	2.74	0.98
STUDENT / PAGE	25.14	16640.09	6297.49	64756.97	15069.68	10	0.30	0.04	0.94	0.27
OTHER	2.00	43823.50	43047.00	44600.00	776.50	2	0.26	0.22	0.30	0.04
STAFF PAID BY OUTSIDE SOURCES	9.85	16632.68	5739.60	60948.00	20085.49	0	0.0	0.0	0.0	0.0
VOLUNTEER	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	220.84	2010.46	857.14	3185.71	794.50	10	5.16	2.65	10.11	2.37

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE VIII: ACQUISITIONS DEPARTMENT
10 LIBRARIES INCLUDED
R: STAFFING AND SALARY EXPENDITURES

TYPE OF EMPLOYEE	NUMBER OF LIBRARIES REPORTING	FULL TIME EQUIVALENCIES			NUMBER OF LIBRARIES REPORTING	ANNUAL SALARY EXPENDITURES, \$		
		AVERAGE	LOW	HIGH		AVERAGE	LOW	HIGH
PROFESSIONAL LIBRARIAN	10	3.66	1.00	7.00	10	56174.	18220.	104532.
OTHER PROFESSIONAL	1	1.00	1.00	1.00	1	14820.	14820.	14820.
LIBRARY ASSISTANT	10	11.77	3.00	22.00	10	107880.	24228.	214680.
CLERK	7	4.07	1.00	8.50	7	29912.	6448.	70500.
STUDENT / PAGE	9	2.79	0.75	6.00	10	11309.	1010.	28431.
OTHER	2	1.00	1.00	1.00	2	11355.	9822.	12888.
STAFF PAID BY OUTSIDE SOURCES	3	3.28	1.10	7.50	0	0.	0.	0.
VOLUNTEER	0	0.0	0.0	0.0	0	0.	0.	0.
				STD DEV				STD DEV
				1.68				27766.
				0.0				0.
				5.91				61260.
				2.68				21365.
				1.87				8640.
				0.0				1533.
				2.98				0.
				0.0				0.

TYPE OF EMPLOYEE	NUMBER OF FTE REPORTED	AVERAGE SALARY PER FTE			STD DEV
		AVERAGE	LOW	HIGH	
PROFESSIONAL LIBRARIAN	36.60	15348.	10738.	18220.	1703.
OTHER PROFESSIONAL	1.00	14820.	14820.	14820.	0.
LIBRARY ASSISTANT	117.75	9162.	6760.	10407.	1090.
CLERK	28.50	7347.	5421.	9396.	1039.
STUDENT / PAGE	25.14	4458.	1748.	7345.	1675.
OTHER	2.00	11355.	9822.	12888.	1533.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE VIII: ACQUISITIONS DEPARTMENT

C: ORDERING PATTERNS

10 LIBRARIES INCLUDED

MATERIAL TYPE AND/OR SOURCE	NUMBER OF LIBRARIES REPORTING	TOTAL THROUGHPUT			STD DEV
		AVERAGE	LOW	HIGH	
MONOGRAPH TITLES	10	37552.	11800.	66185.	15716.
SERIAL TITLES	9	760A.	200.	22192.	7058.
TOTAL TITLES	10	44399.	12000.	76185.	18171.
% STANDING ORDER	10	7.2	1.2	20.2	5.9
% APPROVAL PLAN	10	21.2	5.2	36.2	10.3
% ORDER REQUEST	10	54.2	38.2	66.2	8.1
% GIFT/EXCHANGE	10	15.2	5.2	32.2	8.2
% OTHER	4	6.2	1.2	14.2	4.8

YEAR IMPRINT

% 1975-76	9	57.2	10.2	85.2	20.1
% 1969-74	9	30.2	4.2	80.2	20.3
% PRE1969	8	7.2	1.2	15.2	4.5

BACKFILE AND RETROSPECTIVE

% SERIAL BACKFILE SUPPLEMENT	6	51.2	1.0	99.0	47.2
% MONOGRAPH RETROSPECTIVE COLLECTION DEVELOPMENT	6	24.2	1.0	50.0	22.7

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRUTUM

TABLE 1x: CATALOGING DEPARTMENT
10 LIBRARIES INCLUDED

A: BUDGET PROFILE

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	DEPARTMENT AVERAGE	DEPARTMENT LOW	DEPARTMENT HIGH	STD DEV	NUMBER OF LIBRARIES REPORTING	INCREASE OVER AVERAGE	LOW	HIGH	YEAR'S EXPENDITURES STD DEV
TOTAL OPERATING	9	513694.	118991.	1291198.	334884.	9	58945.	13656.	101727.	24818.
SALARIES AND FRINGE BENEFITS	9	495528.	114391.	1291198.	341245.	9	48672.	12299.	101727.	31813.
AUTOMATED SYSTEMS	3	31213.	7800.	50000.	17536.	0	0.	0.	0.	0.
OTHER SUPPORT SERVICES	3	8587.	1700.	18562.	7222.	3	-1488.	-3410.	240.	1496.
EQUIPMENT RENTAL	3	2157.	600.	3900.	1354.	3	-1711.	-5153.	563.	2475.
COMMUNICATIONS	3	1125.	300.	2500.	979.	3	105.	40.	170.	65.
SUPPLIES	5	6659.	1790.	17985.	5863.	5	-445.	-1708.	1342.	1032.
OTHER OPERATING	1	950.	950.	950.	0.	1	153.	153.	153.	0.

TABLE IX: CATALOGING DEPARTMENT
10 LIBRARIES INCLUDED
R: STAFFING AND SALARY EXPENDITURES

TYPE OF EMPLOYE	NUMBER OF LIBRARIES REPORTING			FULL TIME EQUIVALENCIES			STD DEV	NUMBER OF LIBRARIES REPORTING	SALARY EXPENDITURES, \$			STD DEV
	AVERAGE	LOW	HIGH	AVERAGE	LOW	HIGH			AVERAGE	LOW	HIGH	
PROFESSIONAL LIBRARIAN	10	11.09	5.00	17.00	4.28			10	177396.	78447.	290816.	64532.
OTHER PROFESSIONAL	1	0.50	0.50	0.50	0.0			1	3229.	3229.	3229.	0.
LIBRARY ASSISTANT	10	24.21	2.00	75.00	20.61			10	224517.	22656.	726649.	203602.
CLERK	5	7.60	2.00	16.00	4.96			5	40981.	13288.	79006.	23567.
STUDENT / PAGE	9	4.19	1.00	8.00	2.25			9	20052.	4576.	34162.	9491.
OTHER	0	0.0	0.0	0.0	0.0			0	0.	0.	0.	0.
STAFF PAID BY OUTSIDE SOURCES	3	2.86	0.74	7.00	2.93			0	0.	0.	0.	0.
VOLUNTEER	0	0.0	0.0	0.0	0.0			0	0.	0.	0.	0.

TYPE OF EMPLOYEE	NUMBER OF FTE REPORTED	AVERAGE	AVERAGE SALARY PER FTE		STD DEV
			LOW	HIGH	
PROFESSIONAL LIBRARIAN	110.87	16000.	11675.	31533.	4175.
OTHER PROFESSIONAL LIBRARY ASSISTANT	0.50	6458.	6458.	6458.	0.
CLERK	242.15	9272.	6590.	11328.	1168.
STUDENT / PAGE	39.00	5392.	4938.	6544.	468.
OTHER	37.73	4743.	3837.	5907.	681.
	0.00	0.	0.	0.	0.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE IX: CATALOGING DEPARTMENT
10 LIBRARIES INCLUDED
A: BUDGET PROFILE

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	LAST YEAR'S EXPENDITURES			NUMBER OF LIBRARIES REPORTING	EXPENDITURE PER THROUGHPUT		
		AVERAGE	LOW	HIGH		AVERAGE	LOW	HIGH
TOTAL								STD DEV
OPERATING	9	441298.	105335.	1189471.	9	11.76	6.28	17.74
SALARIES AND FRINGE BENEFITS	9	452264.	100885.	1189471.	9	11.53	6.12	17.74
AUTOMATED SYSTEMS	0	0.	0.	0.	0	0.0	0.0	0.0
OTHER SUPPORT SERVICES	3	10075.	1460.	19456.	3	0.35	0.10	0.47
EQUIPMENT RENTAL	3	3869.	1144.	7125.	3	0.03	0.03	0.24
COMMUNICATIONS	3	1055.	300.	2330.	3	0.04	0.02	0.06
SUPPLIES	5	7104.	2690.	16643.	5	0.19	0.10	0.40
OTHER OPERATING	1	797.	797.	797.	1	0.03	0.03	0.03
								STD DEV
								3.42
								4.01
								0.14
								0.08
								0.02
								0.11
								0.0

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE IX: CATALOGING DEPARTMENT

10. LIBRARIES INCLUDED
R: STAFFING AND SALARY EXPENDITURES

TYPE OF EMPLOYEE	NUMBER OF FTE REPORTED	TITLE AVERAGE	THROUGHPUT LOW	PER CAT FTE HIGH	CAT FTE STD DEV	NUMBER OF LIBRARIES REPORTING	ANNUAL			THROUGHPUT STD DEV
							CAT SAL \$ AVERAGE	EXP PER TITLE LOW	HIGH	
PROFESSIONAL LIBRARIAN	110.87	3495.30	2231.81	5087.75	936.42	10	4.90	2.74	7.77	1.66
OTHER PROFESSIONAL	0.50	70378.00	70378.00	70378.00	0.0	1	0.09	0.09	0.09	0.0
LIBRARY ASSISTANT	242.15	1600.34	947.17	14929.66	1672.10	10	5.24	0.56	10.26	3.27
CLERK	34.00	3825.00	2799.31	7351.00	1266.02	5	1.30	0.90	1.76	0.33
STUDENT / PAGE	37.73	9481.30	3658.25	34593.00	6225.36	9	0.54	0.13	1.30	0.36
OTHER	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
STAFF PAID BY OUTSIDE SOURCES	8.59	14196.96	5996.29	60525.67	17689.62	0	0.0	0.0	0.0	0.0
VOLUNTEER	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	437.84	885.08	650.50	1633.56	214.66	10	11.28	5.78	17.65	3.85

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE IX: CATALOGING DEPARTMENT,
C: CATALOGING PATTERNS
10 LIBRARIES INCLUDED

TYPE OF MATERIAL	NUMBER OF LIBRARIES REPORTING	AVERAGE	LOW	HIGH	STD DEV
MONOGRAPH TITLES	10	33070.	13723.	53867.	12163.3
SERIALS TITLES	10	2524.	853.	8600.	2346.9
OTHER TITLES	8	3949.	119.	15248.	5064.4
TOTAL TITLES	10	38752.	14702.	71038.	15808.7
CATALOGING SOURCE					
LC CAT	10	59.8	3.8	87.8	28.5
NUC DATA	7	8.8	1.8	20.8	5.5
CIP DATA	4	1.8	1.8	1.8	0.0
SECONDARY SOURCE	6	34.8	5.8	79.8	29.7
ORIG CATALOGING	9	16.8	5.8	30.8	7.4
RELATED DATA					
LAG TIME	10	33.	4.	60.	18.5
BACKLOG	10	43450.	1500.	205000.	60994.2
CARDS/RECORD ENTRY FOR:					
MONOGRAPH TITLES	9	10.	6.	14.	2.4
SERIALS TITLES	8	9.	6.	14.	2.5
OTHER TITLES	6	9.	5.	14.	3.0

PROOF SLIP SUBSCRIPTIONS
 9 LIBRARIES RESPONDING
 4 AFFIRMATIVE OR 44.4%
 5 NEGATIVE
 0 OTHER RESPONSE

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE Y: INTERLIBRARY LOAN DEPARTMENT
IN LIBRARIES INCLUDED
A: BUDGET PROFILE

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	DEPARTMENT LOW	HIGH	STD DEV	NUMBER OF LIBRARIES REPORTING	INCREASE AVERAGE	OVER LAST YEAR'S LOW	HIGH	EXPENDITURES STD DEV
TOTAL OPERATING	9	57285.	135307.	29502.	9	5656.	1224.	10779.	3028.
SALARIES AND FRINGE BENEFITS	9	55012.	135307.	30279.	9	4969.	1202.	10774.	3005.
AUTOMATED SYSTEMS	1	1800.	1800.	0.	1	1315.	1315.	1315.	0.
OTHER SUPPORT SERVICES	3	1631.	2000.	522.	3	441.	22.	1000.	411.
EQUIPMENT RENTAL	1	2550.	2550.	0.	1	350.	350.	350.	0.
COMMUNICATIONS	3	1936.	3000.	1242.	3	496.	-41.	1424.	662.
SUPPLIES	4	763.	1500.	449.	4	88.	22.	160.	49.
OTHER OPERATING	2	1175.	2200.	1025.	2	333.	15.	650.	318.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM
TABLE X: INTERLIBRARY LOAN DEPARTMENT
10 LIBRARIES INCLUDED
A: BUDGET PROFILE

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	LAST YEAR'S EXPENDITURES			STD DEV	NUMBER OF LIBRARIES REPORTING	EXPENDITURE PER THROUGHPUT			
		AVERAGE	LOW	HIGH			AVERAGE	LOW	HIGH	STD DEV
TOTAL OPERATING	9	52257.	22195.	124528.	27337.	9	2.97	1.71	4.25	0.65
SALARIES AND FRINGE BENEFITS	9	50595.	21817.	124528.	27930.	9	2.84	1.68	4.25	0.64
AUTOMATED SYSTEMS	1	485.	485.	485.	0.	1	0.03	0.03	0.03	0.0
OTHER SUPPORT SERVICES	3	1190.	871.	1700.	364.	3	0.09	0.06	0.11	0.02
EQUIPMENT RENTAL	1	2200.	2200.	2200.	0.	1	0.14	0.14	0.14	0.0
COMMUNICATIONS	3	1440.	154.	2589.	997.	3	0.11	0.01	0.18	0.08
SUPPLIES	4	675.	317.	1340.	406.	4	0.05	0.02	0.12	0.04
OTHER OPERATING	2	843.	135.	1550.	704.	2	0.06	0.01	0.11	0.05

A: SURVEY OF 100 LIBRARIES. LARGE ACADEMIC STRUTUM

TABLE X: INTERLIBRARY LOAN DEPARTMENT
10 LIBRARIES INCLUDED

B: STAFFING AND SALARY EXPENDITURES

TYPE OF EMPLOYEE	NUMBER OF FTE REPORTED	REQUEST AVERAGE	LOW	HIGH	PER ILL FTE	STD DEV	NUMBER OF LIBRARIES REPORTING	ILL SAL \$ AVERAGE	EXP PER REQUEST LOW	ANNUAL HIGH	STD DEV
PROFESSIONAL LIBRARIAN	8.60	16447.20	6663.33	104369.94	13959.57		8	1.10	0.10	2.62	0.71
OTHER PROFESSIONAL	0.0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0
LIBRARY ASSISTANT	30.85	5464.47	3479.00	15403.00	2584.27		10	1.60	0.45	2.61	0.72
CLERK	3.07	19385.67	10437.00	295728.56	42259.61		4	0.33	0.02	0.52	0.19
STUDENT / PAGE	8.00	12915.35	5134.33	33316.66	8045.10		8	0.33	0.07	0.77	0.21
OTHER	0.42	49288.08	49288.08	49288.09	0.01		1	0.22	0.22	0.22	0.0
STAFF PAID BY OUTSIDE SOURCES	5.30	12679.23	7500.00	22328.00	4441.05		0	0.0	0.0	0.0	0.0
VOLUNTEER	0.0	0.0	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0
TOTAL	56.24	2997.49	1776.32	3919.47	778.24		10	2.90	1.58	4.18	0.68

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

 TABL X: INTERLIBRARY LOAN DEPARTMENT
 10 LIBRARIES INCLUDED
 C: VOLUME OF BORROWING REQUESTS

BORROWING REQUESTS	NUMBER OF LIBRARIES REPORTING	AVERAGE	LOW	VOLUME		STD DEV
				HIGH		
TOTAL REQUESTS	10	5431.	2704.	10000.		2348.
NUMBER FILLED	10	4343.	2434.	7377.		1413.
FILL RATE	10	84.3%	58.1%	98.6%		11.0%
% FILLED LOCALLY	7	23.4%	1.0%	50.0%		17.7%
% FILLED IN STATE	9	36.7%	11.0%	75.0%		18.0%

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE X: INTERLIBRARY LOAN DEPARTMENT

10 LIBRARIES INCLUDED

D: NUMBER OF INSTITUTIONS QUERIED

STRATA	TOTAL	LIBRARIES REPORTING THIS STRATA	PERCENT
1.0-1.4	10	1.	10.0%
1.5-1.9	10	4.	40.0%
2.0-2.4	10	1.	10.0%
2.5-2.9	10	3.	30.0%
3.0-3.4	10	1.	10.0%
3.5-3.9	10	0.	0.0%
4.0-4.4	10	0.	0.0%
4.5-4.9	10	0.	0.0%
5.0-5.4	10	0.	0.0%
MODE	1.5-1.9		
AVERAGE	1.9		

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE X: INTERLIBRARY LOAN DEPARTMENT
LIBRARIES INCLUDED

E: TIME REQUIRED TO FILL A REQUEST

SOURCE	NUMBER OF LIBRARIES REPORTING	AVERAGE DAYS		HIGH	STD DEV
		AVERAGE	LOW		
THROUGH A RIB CENTER	7	19.	5.	60.	17.
FROM A LIBRARY LOCALLY	9	6.	3.	14.	3.
ELSEWHERE IN STATE	10	10.	3.	15.	3.
ADJOINING STATES	9	17.	10.	21.	4.
ELSEWHERE	10	27.	18.	45.	7.
OVERALL	10	16.	6.	27.	8.

A: SURVEY OF 100 LIBRARIES. LARGE ACADEMIC STRATUM

TABLE X: INTERLIBRARY LOAN DEPARTMENT

10 LIBRARIES INCLUDED

F: VERIFICATION

9 LIBRARIES OF 9 LIBRARIES RESPONDING NORMALLY VERIFY BORROWING REQUESTS

OR 100.0%

2 LIBRARIES OF 10 LIBRARIES RESPONDING NORMALLY VERIFY LENDING REQUESTS

OR 20.0%

A: SUPPLY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE X: INTERLIBRARY LOAN DEPARTMENT
LIBRARIES INCLUDED
G: FREQUENCY OF BORROWERS TABLE

STRATA	LIBRARIES REPORTING	NUMBER OF TOTAL OBSERVATIONS	FREQUENCY IN TABLE		STD DEV	PLACE IN TABLE		STD DEV
			AVERAGE	LOW		LOW	HIGH	
LARGE ACADEMIC LIBRARY	8	18	2.	1.	4.	1.	10.	3.
STATE LIBRARY	2	3	2.	1.	2.	5.	10.	2.
LARGE PUBLIC LIBRARY	3	3	1.	1.	1.	6.	7.	0.
OTHER REGIONAL LIBRARY	2	2	1.	1.	1.	2.	5.	2.
OTHER ACADEMIC LIBRARY	10	48	5.	2.	7.	1.	10.	3.
OTHER PUBLIC LIBRARY	1	3	3.	3.	3.	3.	10.	3.
BIBLIOGRAPHIC CENTER	1	1	1.	1.	1.	4.	4.	0.
SPECIAL LIBRARY	7	9	1.	1.	2.	1.	10.	3.
OTHER LIBRARY	4	5	1.	1.	2.	1.	7.	2.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE X: INTERLIBRARY LOAN DEPARTMENT
LIBRARIES INCLUDED
H: FREQUENCY OF LENDERS TABLE

STRATA	NUMBER OF LIBRARIES REPORTING	TOTAL OBSERVATIONS	FREQUENCY IN TABLE			STD DEV	PLACE IN TABLE		STD DEV
			AVERAGE	LOW	HIGH		LOW	HIGH	
LARGE ACADEMIC LIBRARY	10	51	5.	1.	8.	2.	1.	10.	3.
STATE LIBRARY	5	8	2.	1.	2.	0.	1.	9.	3.
LARGE PUBLIC LIBRARY	1	1	1.	1.	1.	0.	9.	9.	0.
OTHER REGIONAL LIBRARY	0	0	0.	0.	0.	0.	0.	0.	0.
OTHER ACADEMIC LIBRARY	7	14	2.	1.	3.	1.	1.	10.	3.
OTHER PUBLIC LIBRARY	1	1	1.	1.	1.	0.	2.	2.	0.
BIBLIOGRAPHIC CENTER	1	1	1.	1.	1.	0.	4.	4.	0.
SPECIAL LIBRARY	3	4	1.	1.	2.	0.	1.	5.	2.
OTHER LIBRARY	3	4	1.	1.	2.	0.	3.	8.	2.

A: SURVEY OF 100 LIBRARIES. LARGE ACADEMIC STRATUM

TABLE X: INTERLIBRARY LOAN DEPARTMENT
101 LIBRARIES INCLUDED
I: LOCATION OF BORROWERS TABLE

STRATA	LIBRARIES REPORTING	NUMBER OF TOTAL OBSERVATIONS	FREQUENCY IN TABLE		STD DEV	AVERAGE	PLACE IN TABLE		STD DEV	
			LOW	HIGH			LOW	HIGH		
LOCAL LIBRARY	7	32	5.	2.	8.	3.	5.	1.	10.	3.
ELSEWHERE IN STATE	8	40	5.	1.	9.	3.	5.	1.	10.	3.
ADJOINING STATES	8	17	2.	1.	3.	1.	6.	2.	9.	2.
OTHER WESTERN STATES	2	3	2.	1.	2.	1.	7.	5.	10.	2.
OTHER EASTERN STATES	0	0	0.	0.	0.	0.	0.	0.	0.	0.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE X: INTERLIBRARY LOAN DEPARTMENT
10 LIBRARIES INCLUDED
J: LOCATION OF LENDERS TABLE

STRATA	NUMBER OF LIBRARIES REPORTING		FREQUENCY IN TABLE			PLACE IN TABLE		
	TOTAL OBSERVATIONS	AVERAGE	LOW	HIGH	STD DEV	LOW	HIGH	STD DEV
LOCAL LIBRARY	3	9	3.	2.	5.	1.	10.	3.
ELSEWHERE IN STATE	7	19	3.	1.	7.	1.	8.	2.
ADJOINING STATES	8	21	3.	1.	5.	2.	10.	3.
OTHER STATES	4	6	2.	1.	3.	1.	10.	3.
OTHER STATES	8	29	4.	2.	6.	1.	10.	2.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE X: INTERLIBRARY LOAN DEPARTMENT

LIBRARIES INCLUDED

K: CHARACTERISTICS OF FILLED BORROWING REQUESTS

TYPE OF MATERIALS	NUMBER OF LIBRARIES REPORTING	PHOTOCOPY/DUPLICATE			PERCENT OF TOTAL		
		AVERAGE	LOW	HIGH	LOW	HIGH	STD DEV
BOOKSTOCK	3	48.	20.	100.	3.4%	1.6%	6.5%
PERIODICALS	8	2220.	1366.	4000.	98.5%	91.9%	100.0%
MICROFORMS	4	58.	5.	150.	51.0%	4.0%	100.0%
AUDIO/VISUAL	0	0.	0.	0.	0.0%	0.0%	0.0%
GOVERNMENT DOCUMENTS	1	15.	15.	15.	75.0%	75.0%	0.0%
OTHER	1	450.	450.	450.	56.3%	56.3%	0.0%
TOTAL	10	2233.	1193.	4150.	50.4%	35.8%	66.7%

TYPE OF MATERIALS	NUMBER OF LIBRARIES REPORTING	ORIGINAL			PERCENT OF TOTAL		
		AVERAGE	LOW	HIGH	LOW	HIGH	STD DEV
BOOKSTOCK	8	1894.	973.	2648.	98.7%	93.5%	100.0%
PERIODICALS	4	52.	10.	123.	3.0%	0.6%	8.1%
MICROFORMS	4	79.	25.	120.	74.0%	50.0%	100.0%
AUDIO/VISUAL	3	9.	1.	25.	100.0%	100.0%	100.0%
GOVERNMENT DOCUMENTS	5	138.	5.	369.	85.0%	25.0%	100.0%
OTHER	2	176.	1.	350.	71.9%	43.8%	100.0%
TOTAL	10	2111.	1023.	3467.	49.6%	33.3%	64.2%

TABLE X: INTERLIBRARY LOAN DEPARTMENT
K: CHARACTERISTICS OF FILLED BORROWING REQUESTS

TYPE OF MATERIALS	NUMBER OF LIBRARIES REPORTING	AVERAGE		TOTAL		STD DEV	AVERAGE		PERCENT OF TOTAL		STD DEV
		LOW	HIGH	LOW	HIGH		LOW	HIGH	LOW	HIGH	
BOOKSTOCK	8	1912.	2648.	993.	2648.	492.	100.0%	100.0%	100.0%	100.0%	0.0
PERIODICALS	8	2246.	4000.	1391.	4000.	892.	100.0%	100.0%	100.0%	100.0%	0.0
MICROFORMS	5	109.	150.	50.	150.	34.	100.0%	100.0%	100.0%	100.0%	0.0
AUDIO/VISUAL	3	9.	25.	1.	25.	11.	100.0%	100.0%	100.0%	100.0%	0.0
GOVERNMENT DOCUMENTS	5	141.	369.	20.	369.	137.	100.0%	100.0%	100.0%	100.0%	0.0
OTHER	2	401.	800.	1.	800.	400.	100.0%	100.0%	100.0%	100.0%	0.0
TOTAL	10	4343.	7377.	2434.	7377.	1413.	100.0%	100.0%	100.0%	100.0%	0.0

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE X: INTERLIBRARY LOAN DEPARTMENT
LIBRARIES INCLUDED
L: CHARACTERISTICS OF FILLED LENDING REQUESTS

TYPE OF MATERIALS	NUMBER OF LIBRARIES REPORTING	AVERAGE			PHOTOCOPY/DUPLICATE			PERCENT OF TOTAL		
		LOW	HIGH	STD DEV	LOW	HIGH	STD DEV	LOW	HIGH	STD DEV
BOOKSTOCK	1	60.	60.	0.	2.3%	2.3%	0.0	2.3%	2.3%	0.0
PERIODICALS	8	4016.	1000.	14295.	3997.	98.4%	87.7%	100.0%	100.0%	4.0
MICROFORMS	4	158.	25.	375.	131.	67.7%	16.7%	100.0%	100.0%	33.4
AUDIO/VISUAL	0	0.	0.	0.	0.	0.0%	0.0%	0.0%	0.0%	0.0
GOVERNMENT DOCUMENTS	1	12.	12.	0.	25.0%	25.0%	0.0	25.0%	25.0%	0.0
OTHER	1	50.	50.	0.	8.0%	8.0%	0.0	8.0%	8.0%	0.0
TOTAL	10	4235.	1025.	14445.	3635.	45.5%	30.0%	58.9%	58.9%	9.5

TYPE OF MATERIALS	NUMBER OF LIBRARIES REPORTING	AVERAGE			ORIGINAL			PERCENT OF TOTAL		
		LOW	HIGH	STD DEV	LOW	HIGH	STD DEV	LOW	HIGH	STD DEV
BOOKSTOCK	8	3487.	1150.	7725.	2238.	96.7%	97.7%	100.0%	100.0%	0.8
PERIODICALS	2	1006.	12.	2000.	994.	6.5%	0.8%	12.3%	12.3%	5.8
MICROFORMS	3	203.	20.	500.	212.	43.1%	5.1%	83.3%	83.3%	32.0
AUDIO/VISUAL	3	1795.	5.	5278.	2463.	100.0%	100.0%	100.0%	100.0%	0.0
GOVERNMENT DOCUMENTS	4	194.	20.	391.	168.	93.8%	75.0%	100.0%	100.0%	10.8
OTHER	1	575.	575.	0.	0.	92.0%	92.0%	92.0%	92.0%	0.0
TOTAL	10	4788.	1175.	11130.	2938.	54.3%	41.1%	70.0%	70.0%	9.5

TABLE X: INTERLIBRARY LOAN DEPARTMENT
 L: CHARACTERISTICS OF FILLED LENDING REQUESTS

TYPE OF MATERIALS	NUMBER OF LIBRARIES REPORTING	TOTAL			STD DEV	AVERAGE	PERCENT OF TOTAL		STD DEV
		AVERAGE	LOW	HIGH			LOW	HIGH	
BOOKSTOCK	8	3494.	1150.	7725.	2235.	100.0%	100.0%	100.0%	0.0
PERIODICALS	8	4267.	1000.	16295.	4642.	100.0%	100.0%	100.0%	0.0
MICROFORMS	4	310.	25.	600.	213.	100.0%	100.0%	100.0%	0.0
AUDIO/VISUAL	3	1795.	5.	5278.	2463.	100.0%	100.0%	100.0%	0.0
GOVERNMENT DOCUMENTS	4	197.	20.	391.	165.	100.0%	100.0%	100.0%	0.0
OTHER	1	625.	625.	625.	0.	100.0%	100.0%	100.0%	0.0
TOTAL	10	9028.	2250.	25575.	6267.	100.0%	100.0%	100.0%	0.0

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE VI: ADMINISTRATIVE DEPARTMENT
IN LIBRARIES INCLUDED

A: BUDGET PROFILE

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	DEPARTMENT LOW	HIGH	STD DEV	NUMBER OF LIBRARIES REPORTING	INCREASE AVERAGE	OVER LAST YEAR'S LOW	HIGH	EXPENDITURES STD DEV
TOTAL OPERATING	10	241087.	606537.	133704.	10	24765.	4875.	55641.	15299.
SALARIES AND FRINGE BENEFITS	10	221325.	468451.	97174.	10	28395.	4885.	55641.	17189.
AUTOMATED SYSTEMS	1	10276.	10276.	0.	1	7876.	7876.	7876.	0.
OTHER SUPPORT SERVICES	4	30431.	115219.	48954.	4	-14963.	-42822.	219.	19727.
EQUIPMENT RENTAL	3	14542.	27600.	10308.	3	2896.	960.	4812.	1936.
COMMUNICATIONS	4	3882.	7536.	2450.	4	-182.	-500.	308.	308.
SUPPLIES	4	1569.	2298.	566.	4	-186.	-1278.	261.	632.
OTHER OPERATING	1	200.	200.	0.	1	20.	20.	20.	0.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE XI: ADMINISTRATIVE DEPARTMENT
10 LIBRARIES INCLUDED
A: BUDGET PROFILE

BUDGET CATEGORY	NUMBER OF LIBRARIES REPORTING	LAST YEAR'S EXPENDITURES			STD DEV
		AVERAGE	LOW	HIGH	
TOTAL OPERATING	10	218799.	103136.	593785.	132606.
SALARIES AND FRINGE BENEFITS	10	195770.	96766.	416057.	84057.
AUTOMATED SYSTEMS	1	2400.	2400.	2400.	0.
OTHER SUPPORT SERVICES	4	41653.	1461.	158041.	67211.
EQUIPMENT RENTAL	3	12611.	2400.	26640.	10258.
COMMUNICATIONS	4	4063.	1150.	7910.	2471.
SUPPLIES	4	1755.	640.	2984.	865.
OTHER OPERATING	1	180.	180.	180.	0.

TABLE XI: ADMINISTRATIVE DEPARTMENT
10 LIBRARIES INCLUDED
R: STAFFING AND SALARY EXPENDITURES

TYPE OF EMPLOYEE	NUMBER OF LIBRARIES REPORTING	FULL TIME EQUIVALENCIES			NUMBER OF LIBRARIES REPORTING	SALARY EXPENDITURES, \$			STD DEV
		AVERAGE	LOW	HIGH		AVERAGE	LOW	HIGH	
PROFESSIONAL LIBRARIAN	10	4.95	2.00	8.00	10	115477.	52340.	149444.	36056.
OTHER PROFESSIONAL	5	1.80	1.00	3.00	5	29698.	13600.	54000.	14362.
LIBRARY ASSISTANT	2	3.50	1.00	6.00	2	34512.	10328.	62695.	26183.
CLERK	9	6.06	2.00	14.50	9	55725.	11258.	130608.	42123.
STUDENT / PAGE	7	1.14	0.25	2.80	8	5081.	593.	12896.	4398.
OTHER	3	2.50	1.00	3.50	3	24659.	12576.	41352.	11756.
STAFF PAID BY OUTSIDE SOURCES	3	2.55	0.30	6.35	0	0.	0.	0.	0.
VOLUNTEER	0	0.0	0.0	0.0	0	0.	0.	0.	0.

TYPE OF EMPLOYEE	NUMBER OF FTE REPORTED	AVERAGE SALARY PER FTE			STD DEV
		AVERAGE	LOW	HIGH	
PROFESSIONAL LIBRARIAN	49.50	23329.	16178.	28442.	4729.
OTHER PROFESSIONAL	9.00	16499.	13600.	18000.	1377.
LIBRARY ASSISTANT	7.00	10432.	10328.	10449.	42.
CLERK	54.50	9202.	5629.	11322.	1239.
STUDENT / PAGE	7.99	4910.	1977.	8567.	1420.
OTHER	7.50	10664.	8683.	12576.	1636.

A: SURVEY OF 100 LIBRARIES, LARGE ACADEMIC STRATUM

TABLE VI: ADMINISTRATIVE DEPARTMENT

10 LIBRARIES INCLUDED

R: STAFFING AND SALARY EXPENDITURES

TYPE OF EMPLOYEE	NUMBER OF FTE REPORTED	TOTAL LIBRARY FTE		PER ADM FTE		NUMBER OF LIBRARIES REPORTING	ADM SAL \$ EXP PER TOTAL LIBRARY FTE		ANNUAL HIGH	STD DEV
		AVERAGE	LOW	HIGH	STD DEV		AVERAGE	LOW		
PROFESSIONAL LIBRARIAN	49.50	51.20	19.80	114.25	19.69	10	532.18	229.06	1318.80	297.52
OTHER PROFESSIONAL	9.00	133.23	49.50	228.50	78.74	5	155.14	59.52	313.92	105.13
LIBRARY ASSISTANT	7.00	81.57	78.67	99.00	7.12	2	118.58	104.32	132.83	14.25
CLERK	54.50	37.84	14.14	114.25	27.97	9	253.05	55.14	564.66	182.72
STUDENT / PAGE	7.99	220.62	75.36	780.00	182.15	8	20.52	2.90	54.27	15.29
OTHER	7.50	115.30	68.06	217.49	48.42	3	92.91	57.82	127.58	28.48
STAFF PAID BY OUTSIDE SOURCES	7.65	82.70	34.25	680.60	134.61	0	0.0	0.0	0.0	0.0
VOLUNTEER	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	143.14	17.71	6.60	38.08	8.59	10	905.50	386.53	2315.98	513.22

APPENDIX F

TABLES GENERATED BY THE FACT SUBROUTINE

LIBRARY NO. 1
ILL. ACTIVITY SHEET SUMMARY I: TIME PROFILE

ACT NO	TIME, MIN										PERCENT OF TOTAL GROUP TIME						
	A	B	C	D	E	F	G	H	TOTAL	A	B	C	D	E	F	G	H
1	0	0	1095	0	0	0	0	0	1095	0.0%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2	195	0	640	0	149	0	0	0	984	2.2%	0.0%	2.9%	0.0%	2.5%	0.0%	0.0%	0.0%
3	0	0	270	0	0	0	0	0	270	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%
4	0	0	315	0	0	0	0	0	315	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%
5	0	0	855	0	0	0	0	0	855	0.0%	0.0%	3.9%	0.0%	0.0%	0.0%	0.0%	0.0%
6	0	0	465	0	1150	0	0	0	1615	0.0%	0.0%	2.1%	0.0%	19.6%	0.0%	0.0%	0.0%
7	0	0	115	0	350	0	0	0	465	0.0%	0.0%	0.5%	0.0%	6.0%	0.0%	0.0%	0.0%
8	0	0	120	0	5	0	0	0	125	0.0%	0.0%	0.5%	0.0%	0.1%	0.0%	0.0%	0.0%
9	0	0	95	0	1004	247	0	0	1346	0.0%	0.0%	0.4%	0.0%	17.2%	8.4%	0.0%	0.0%
10	0	0	0	0	0	1741	0	0	1741	0.0%	0.0%	0.0%	0.0%	0.0%	59.2%	0.0%	0.0%
11	0	0	335	0	894	0	0	0	1229	0.0%	0.0%	1.5%	0.0%	15.3%	0.0%	0.0%	0.0%
12	0	0	195	230	330	46	0	0	801	0.0%	0.0%	0.9%	45.1%	5.6%	1.6%	0.0%	0.0%
13	0	0	200	0	0	0	0	0	200	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
14	0	0	120	45	0	0	0	0	165	0.0%	0.0%	0.5%	8.8%	0.0%	0.0%	0.0%	0.0%
15	0	0	110	0	0	82	0	0	192	0.0%	0.0%	0.5%	0.0%	0.0%	2.8%	0.0%	0.0%
16	0	0	2690	0	0	0	0	0	2690	0.0%	0.0%	12.2%	0.0%	0.0%	0.0%	0.0%	0.0%
17	-NE-																
18	-NE-																
19	80	0	0	0	0	0	0	0	80	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
20	225	0	1525	0	0	191	0	0	1941	2.5%	0.0%	6.9%	0.0%	0.0%	6.5%	0.0%	0.0%
21	785	0	1725	0	0	0	0	0	2510	8.7%	0.0%	7.8%	0.0%	0.0%	0.0%	0.0%	0.0%
22	0	0	615	0	0	0	0	0	615	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%
23	0	0	350	0	355	0	0	0	705	0.0%	0.0%	1.6%	0.0%	6.1%	0.0%	0.0%	0.0%
24	50	0	265	40	420	77	0	0	852	0.6%	0.0%	1.2%	7.8%	7.2%	2.6%	0.0%	0.0%

NOTE: -NE- = NO ENTRY FOR THIS TASK
 * EMPLOYEE CATEGORY DESIGNATIONS: A, PROFESSIONAL LIBRARIAN; B, OTHER PROFESSIONAL; C, LIBRARY ASSISTANT; D, CLERK;
 * EMPLOYEE CATEGORY DESIGNATIONS: A, PROFESSIONAL LIBRARIAN; B, OTHER PROFESSIONAL; C, LIBRARY ASSISTANT; D, CLERK;
 * STUDENT/PAGE: F, OTHER; G, PAID BY OUTSIDE SOURCE; H, VOLUNTEER.

LIBRARY NO. 1
 ACTIVITY SHEET SUMMARY 1: TIME PROFILE

ACT NO	PERCENT OF TOTAL GROUP TIME																
	TIME*MIN								EMPLOYEE CATEGORY*								
	A	B	C	D	E	F	G	H	TOTAL	A	B	C	D	E	F	G	H
25	0	0	1195	0	0	0	0	0	1195	0.0%	0.0%	5.4%	0.0%	0.0%	0.0%	0.0%	0.0%
26	0	0	725	0	0	0	0	0	725	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%
27	0	0	205	0	0	0	0	0	205	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
28	0	0	215	0	395	0	395	0	610	0.0%	0.0%	1.0%	0.0%	0.0%	13.4%	0.0%	0.0%
29	10	0	185	0	0	0	0	0	195	0.1%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
30	0	0	135	0	0	0	0	0	135	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
31	420	0	405	0	0	0	0	0	825	4.6%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%
32	0	0	195	236	50	0	0	0	481	0.0%	0.0%	0.0%	38.2%	4.0%	1.7%	0.0%	0.0%
33	0	0	200	0	0	0	0	0	200	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
34	1620	0	3525	0	60	50	0	0	5255	17.9%	0.0%	16.0%	0.0%	1.0%	1.7%	0.0%	0.0%
35	135	0	1180	0	230	60	0	0	1605	1.5%	0.0%	5.3%	0.0%	3.9%	2.0%	0.0%	0.0%
36	200	0	475	0	550	0	0	0	1225	2.2%	0.0%	2.2%	0.0%	9.4%	0.0%	0.0%	0.0%
37	20	0	210	0	0	0	0	0	230	0.2%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
38	0	0	175	0	0	0	0	0	175	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
39	0	0	380	0	0	0	0	0	380	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%
40	0	0	105	0	0	0	0	0	105	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
41	0	0	100	0	0	0	0	0	100	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
42	0	0	560	0	120	0	0	0	680	0.0%	0.0%	2.5%	0.0%	2.1%	0.0%	0.0%	0.0%
43	5295	0	0	0	0	0	0	0	5295	58.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL	9035	0	22075	510	5853	2939	0	0	40412	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%

NOTE: -NE- = NO ENTRY FOR THIS TASK
 * EMPLOYEE CATEGORY DESIGNATIONS: A. PROFESSIONAL LIBRARIAN; B. OTHER PROFESSIONAL; C. LIBRARY ASSISTANT; D. CLERK;
 E. STUDENT/PAGE; F. OTHER; G. PAID BY OUTSIDE SOURCE; H. VOLUNTEER.

LIBRARY NO 1
ACTIVITY SHEET SUMMARY II: TASK TIME PROFILE

ACT NO	TOTAL TASK TIME+MIN	PERCENT OF TOTAL TASK TIME										VOLUME	UNIT TIME+MIN	INC
		A	B	C	D	E	F	G	H					
1	1095	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1438	0.76	0
2	984	19.8%	0.0%	65.0%	0.0%	15.1%	0.0%	0.0%	0.0%	0.0%	0.0%	142	6.93	0
3	270	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	268	1.01	0
4	315	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	248	1.27	0
5	855	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	284	3.01	0
6	1615	0.0%	0.0%	28.8%	0.0%	71.2%	0.0%	0.0%	0.0%	0.0%	0.0%	670	2.41	0
7	465	0.0%	0.0%	24.7%	0.0%	75.3%	0.0%	0.0%	0.0%	0.0%	0.0%	336	1.38	0
8	125	0.0%	0.0%	96.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	239	0.52	0
9	1346	0.0%	0.0%	7.1%	0.0%	74.6%	18.4%	0.0%	0.0%	0.0%	0.0%	4154	0.32	1
10	1741	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	2386	0.73	0
11	1229	0.0%	0.0%	27.3%	0.0%	72.7%	0.0%	0.0%	0.0%	0.0%	0.0%	581	2.12	0
12	801	0.0%	0.0%	24.3%	28.7%	41.2%	5.7%	0.0%	0.0%	0.0%	0.0%	315	2.54	0
13	200	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	150	1.33	0
14	165	0.0%	0.0%	72.7%	27.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	110	1.50	0
15	192	0.0%	0.0%	57.3%	0.0%	0.0%	42.7%	0.0%	0.0%	0.0%	0.0%	298	0.64	0
16	2690	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1891	1.42	0
17	-NE-													
18	-NE-													
19	80	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-NE-		
20	1941	11.6%	0.0%	78.6%	0.0%	0.0%	9.8%	0.0%	0.0%	0.0%	0.0%	452	3.19	1
21	2510	31.3%	0.0%	68.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	403	6.23	0
22	615	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	253	2.43	0
23	705	0.0%	0.0%	49.6%	0.0%	50.4%	0.0%	0.0%	0.0%	0.0%	0.0%	511	1.38	0
24	852	5.9%	0.0%	31.1%	4.7%	49.3%	9.0%	0.0%	0.0%	0.0%	0.0%	296	2.71	1

NOTE: -NE- = NO ENTRY FOR THIS TASK
 * CATEGORY DESIGNATIONS: A: PROFESSIONAL LIBRARIAN; B: OTHER PROFESSIONAL; C: LIBRARY ASSISTANT; D: CLERK;
 E: STUDENT/PAGE; F: OTHER; G: PAID BY OUTSIDE SOURCE; H: VOLUNTEER.

LIBRARY NO 1
ILL ACTIVITY SHEET SUMMARY II: TASK TIME PROFILE

ACT NO	TOTAL TASK TIME*MIN	PERCENT OF TOTAL TASK TIME							VOLUME	UNIT TIME*MIN	INC
		A	B	C	D	E	F	G			
25	1195	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	692	1.73	0
26	725	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	291	2.49	0
27	205	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	82	2.50	0
28	610	0.0%	0.0%	35.2%	0.0%	0.0%	64.8%	0.0%	110	1.95	1
29	195	5.1%	0.0%	94.9%	0.0%	0.0%	0.0%	0.0%	32	6.09	0
30	135	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	32	4.22	0
31	825	50.9%	0.0%	49.1%	0.0%	0.0%	0.0%	0.0%	388	2.05	1
32	481	0.0%	0.0%	0.0%	40.5%	49.1%	10.4%	0.0%	128	3.76	0
33	200	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	704	0.28	0
34	5255	30.8%	0.0%	67.1%	0.0%	1.1%	1.0%	0.0%	533	0.66	1
35	1605	8.4%	0.0%	73.5%	0.0%	14.3%	3.7%	0.0%	-NE-		
36	1225	16.3%	0.0%	38.8%	0.0%	44.9%	0.0%	0.0%	55	1.18	1
37	230	8.7%	0.0%	91.3%	0.0%	0.0%	0.0%	0.0%	42	5.00	1
38	175	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	56	1.07	1
39	380	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	233	1.63	0
40	105	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	74	1.42	0
41	100	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	4	5.00	1
42	680	0.0%	0.0%	82.4%	0.0%	17.6%	0.0%	0.0%	765	0.51	1
43	5295	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-NE-		
TOTAL	40412	22.4%	0.0%	54.6%	1.3%	14.5%	7.3%	0.0%			

NOTE: -NE- : NO ENTRY FOR THIS TASK
* EMPLOYEE CATEGORY DESIGNATIONS: A: PROFESSIONAL LIBRARIAN; B: OTHER PROFESSIONAL; C: LIBRARY ASSISTANT; D: CLERK;
E: STUDENT/PAGE; F: OTHER; G: PAID BY OUTSIDE SOURCE; H: VOLUNTEER.

LIBRARY NO. 1
ILL. ACTIVITY SHEET SUMMARY III: COST PROFILE

ACT NO.	A	B	TASK COST(\$\$) BY EMPLOYEE CATEGORY*			E	F	G	H	DIRECT TASK COST, \$	ADMIN. # TASK COST, \$	VOL- UME	DIRECT UNIT COST, \$	ADMIN. # UNIT COST, \$	TOTAL COST, \$	TOTAL UNIT	INC
			C	D	O												
1	0.0	0.0	90.81	0.0	0.0	0.0	0.0	0.0	0.0	90.81	6.63	1438	0.06	0.00	0.00	0.07	0
2	37.80	0.0	56.80	0.0	5.71	0.0	0.0	0.0	0.0	100.31	5.96	142	0.71	0.04	0.04	0.75	0
3	0.0	0.0	23.96	0.0	0.0	0.0	0.0	0.0	0.0	23.96	1.63	268	0.09	0.01	0.01	0.10	0
4	0.0	0.0	28.12	0.0	0.0	0.0	0.0	0.0	0.0	28.12	1.91	248	0.11	0.01	0.01	0.12	0
5	0.0	0.0	76.14	0.0	0.0	0.0	0.0	0.0	0.0	76.14	5.18	284	0.27	0.02	0.02	0.29	0
6	0.0	0.0	41.21	0.0	44.08	0.0	0.0	0.0	0.0	85.30	9.78	670	0.13	0.01	0.01	0.14	0
7	0.0	0.0	10.27	0.0	13.42	0.0	0.0	0.0	0.0	23.68	2.82	336	0.07	0.01	0.01	0.08	0
8	0.0	0.0	10.71	0.0	0.19	0.0	0.0	0.0	0.0	10.90	0.76	239	0.05	0.00	0.00	0.05	0
9	0.0	0.0	8.48	0.0	39.09	16.80	0.0	0.0	0.0	64.37	8.15	4154	0.02	0.00	0.00	0.02	1
10	0.0	0.0	0.0	0.0	0.0	207.57	0.0	0.0	0.0	207.57	10.54	2386	0.09	0.00	0.00	0.09	0
11	0.0	0.0	29.65	0.0	34.27	0.0	0.0	0.0	0.0	63.92	7.44	581	0.11	0.01	0.01	0.12	0
12	0.0	0.0	17.41	11.99	12.65	3.81	0.0	0.0	0.0	45.86	4.85	315	0.15	0.02	0.02	0.16	0
13	0.0	0.0	17.86	0.0	0.0	0.0	0.0	0.0	0.0	17.86	1.21	150	0.12	0.01	0.01	0.13	0
14	0.0	0.0	10.71	2.34	0.0	0.0	0.0	0.0	0.0	13.06	1.00	110	0.12	0.01	0.01	0.13	0
15	0.0	0.0	9.82	0.0	0.0	6.80	0.0	0.0	0.0	16.62	1.16	298	0.06	0.00	0.00	0.06	0
16	0.0	0.0	198.23	0.0	0.0	0.0	0.0	0.0	0.0	198.23	16.29	1891	0.10	0.01	0.01	0.11	0
17	-NE-																
18	-NE-																
19	15.51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.51	0.48	-NE-					
20	43.61	0.0	135.40	0.0	0.0	24.18	0.0	0.0	0.0	203.19	11.75	452	0.32	0.02	0.02	0.34	1
21	152.17	0.0	196.46	0.0	0.0	0.0	0.0	0.0	0.0	348.62	15.20	403	0.47	0.04	0.04	0.90	0
22	0.0	0.0	70.04	0.0	0.0	0.0	0.0	0.0	0.0	70.04	3.72	253	0.28	0.01	0.01	0.29	0
23	0.0	0.0	25.71	0.0	13.61	0.0	0.0	0.0	0.0	39.32	4.27	511	0.08	0.01	0.01	0.09	0
24	9.69	0.0	19.67	2.08	16.10	6.38	0.0	0.0	0.0	53.93	5.16	296	0.15	0.02	0.02	0.17	1

NOTE: -NE- = NO ENTRY FOR THIS TASK
 * EMPLOYEE CATEGORY DESIGNATIONS: A, PROFESSIONAL LIBRARIAN; B, OTHER PROFESSIONAL; C, LIBRARY ASSISTANT; D, CLERK;
 E, STUDENT/PAGE F, PAID BY OUTSIDE SOURCE; H, VOLUNTEER.
 # ADMINISTRATIVE COST DISTRIBUTED FROM ADMINISTRATIVE DEPARTMENT BUDGET

LIBRARY NO. 1
ILL. ACTIVITY SHEET SUMMARY III: COST PROFILE

ACT NO	TASK COST(\$\$) BY EMPLOYEE CATEGORY*				H	G	F	E	DIRECT TASK COST,\$	ADMIN.# TASK COST,\$	VOL- UME	DIRECT UNIT COST,\$	ADMIN.# COST,\$	TOTAL UNIT COST,\$	INC
	A	R	C	O											
25	0.0	0.0	101.53	0.0	0.0	0.0	0.0	0.0	101.53	7.23	692	0.15	0.01	0.16	0
26	0.0	0.0	70.24	0.0	0.0	0.0	0.0	0.0	70.24	4.39	291	0.24	0.02	0.26	0
27	0.0	0.0	23.35	0.0	0.0	0.0	0.0	0.0	23.35	1.24	82	0.28	0.02	0.30	0
28	0.0	0.0	15.79	0.0	0.0	0.0	51.44	0.0	67.23	3.69	110	0.14	0.01	0.16	1
29	1.94	0.0	13.59	0.0	0.0	0.0	0.0	0.0	15.53	1.18	32	0.49	0.04	0.52	0
30	0.0	0.0	9.92	0.0	0.0	0.0	0.0	0.0	9.92	0.82	32	0.31	0.03	0.34	0
31	81.41	0.0	29.75	0.0	0.0	0.0	0.0	0.0	111.16	4.99	388	0.27	0.01	0.28	1
32	0.0	0.0	0.0	10.16	9.05	4.14	0.0	0.0	23.35	2.91	128	0.18	0.02	0.21	0
33	0.0	0.0	14.69	0.0	0.0	0.0	0.0	0.0	14.69	1.21	704	0.02	0.00	0.02	0
34	314.02	0.0	320.59	0.0	2.30	6.51	0.0	0.0	643.42	31.82	533	0.05	0.00	0.05	1
35	26.17	0.0	106.71	0.0	8.82	6.75	0.0	0.0	148.45	9.72	-NE-				
36	38.77	0.0	44.71	0.0	21.08	0.0	0.0	0.0	104.56	7.42	55	0.10	0.01	0.11	1
37	3.88	0.0	15.43	0.0	0.0	0.0	0.0	0.0	19.30	1.39	42	0.37	0.03	0.40	1
38	0.0	0.0	15.62	0.0	0.0	0.0	0.0	0.0	15.62	1.06	56	0.10	0.01	0.10	1
39	0.0	0.0	43.28	0.0	0.0	0.0	0.0	0.0	43.28	2.30	233	0.19	0.01	0.20	0
40	0.0	0.0	11.96	0.0	0.0	0.0	0.0	0.0	11.96	0.64	74	0.16	0.01	0.17	0
41	0.0	0.0	11.39	0.0	0.0	0.0	0.0	0.0	11.39	0.61	4	0.57	0.03	0.60	1
42	0.0	0.0	43.16	0.0	4.60	0.0	0.0	0.0	47.76	4.12	765	0.04	0.00	0.04	1
43	1026.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1026.39	32.06	-NE-				
TOTAL	1751.36	0.0	1969.15	26.58	224.97	334.38	0.0	0.0	4306.43	244.67					

NOTE: -NE-: NO ENTRY FOR THIS TASK
 * EMPLOYEE CATEGORY DESIGNATIONS: A: PROFESSIONAL LIBRARIAN; R: OTHER PROFESSIONAL; C: LIBRARY ASSISTANT; D: CLERK;
 E: STUDENT/PAGE; F: OTHER; G: PAID BY OUTSIDE SOURCE; H: VOLUNTEER.
 # ADMINISTRATIVE COST DISTRIBUTED FROM ADMINISTRATIVE DEPARTMENT BUDGET

ACTIVITY SHEET SUMMARY IV: PROFILE OF TOTAL TASK COST

ACT NO	DIRECT TASK COST+\$	ADMIN. DEPT.# BUDGET	ADMIN. TASK# COST+\$	TOTAL TASK COST+\$	ADMIN. (2)	PERCENT OF TOTAL TASK COST							
						A	B	EMPLOYEE CATEGORY*			F	G	H
								C	D	E			
1	90.81	6.63	21.03	118.48	23.3%	0.0%	0.0%	76.7%	0.0%	0.0%	0.0%	0.0%	0.0%
2	100.31	5.96	18.90	125.16	19.9%	30.2%	0.0%	45.4%	0.0%	4.6%	0.0%	0.0%	0.0%
3	23.96	1.63	5.19	30.78	22.2%	0.0%	0.0%	77.8%	0.0%	0.0%	0.0%	0.0%	0.0%
4	28.12	1.91	6.05	36.08	22.1%	0.0%	0.0%	77.9%	0.0%	0.0%	0.0%	0.0%	0.0%
5	76.14	5.18	16.42	97.74	22.1%	0.0%	0.0%	77.9%	0.0%	0.0%	0.0%	0.0%	0.0%
6	85.30	9.78	31.02	126.09	32.4%	0.0%	0.0%	32.7%	0.0%	35.0%	0.0%	0.0%	0.0%
7	23.68	2.82	8.93	35.43	33.2%	0.0%	0.0%	29.0%	0.0%	37.9%	0.0%	0.0%	0.0%
8	10.90	0.76	2.40	14.06	22.5%	0.0%	0.0%	76.2%	0.0%	1.4%	0.0%	0.0%	0.0%
9	64.37	8.15	25.85	98.38	34.6%	0.0%	0.0%	8.6%	0.0%	39.7%	17.1%	0.0%	0.0%
10	207.57	10.54	33.44	251.55	17.5%	0.0%	0.0%	0.0%	0.0%	0.0%	82.5%	0.0%	0.0%
11	63.92	7.44	23.60	94.97	32.7%	0.0%	0.0%	31.2%	0.0%	36.1%	0.0%	0.0%	0.0%
12	45.86	4.85	15.38	66.09	30.6%	0.0%	0.0%	26.3%	18.1%	19.1%	5.8%	0.0%	0.0%
13	17.86	1.21	3.84	22.91	22.1%	0.0%	0.0%	77.9%	0.0%	0.0%	0.0%	0.0%	0.0%
14	13.06	1.00	3.17	17.23	24.2%	0.0%	0.0%	62.2%	13.6%	0.0%	0.0%	0.0%	0.0%
15	16.62	1.16	3.69	21.47	22.6%	0.0%	0.0%	45.7%	0.0%	0.0%	31.7%	0.0%	0.0%
16	198.23	16.29	51.67	266.18	25.5%	0.0%	0.0%	74.5%	0.0%	0.0%	0.0%	0.0%	0.0%
17	-NE-												
18	-NE-												
19	15.51	0.48	1.54	17.53	11.5%	88.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
20	203.19	11.75	37.28	252.22	19.4%	17.3%	0.0%	53.7%	0.0%	0.0%	9.6%	0.0%	0.0%
21	348.62	15.20	48.21	412.03	15.4%	36.9%	0.0%	47.7%	0.0%	0.0%	0.0%	0.0%	0.0%
22	70.04	3.72	11.81	85.58	14.2%	0.0%	0.0%	81.8%	0.0%	0.0%	0.0%	0.0%	0.0%
23	39.32	4.27	13.54	57.13	31.2%	0.0%	0.0%	45.0%	0.0%	23.8%	0.0%	0.0%	0.0%
24	53.93	5.16	16.36	75.45	28.5%	12.8%	0.0%	26.1%	2.8%	21.3%	8.5%	0.0%	0.0%

NOTE: -NE- : NO ENTRY FOR THIS TASK

* EMPLOYEE CATEGORY DESIGNATIONS: A: PROFESSIONAL LIBRARIAN; B: OTHER PROFESSIONAL; C: LIBRARY ASSISTANT; D: CLERK;

E: STUDENT/PAGE; F: OTHER; G: PAID BY OUTSIDE SOURCE; H: VOLUNTEER.

ADMINISTRATIVE COST DISTRIBUTED FROM ADMINISTRATIVE DEPARTMENT BUDGET

LIBRARY NO 1
ILL ACTIVITY SHEET SUMMARY IV: PROFILE OF TOTAL TASK COST

ACT NO	DIRECT TASK COST, \$	ADMIN. DEPT. #	ADMIN. TASK COST, \$	TOTAL TASK COST, \$	ADMIN. (2)	PERCENT OF TOTAL TASK COST							
						A	B	C	O	E	F	G	H
25	101.53	7.23	22.95	131.71	22.9%	0.0%	0.0%	77.1%	0.0%	0.0%	0.0%	0.0%	0.0%
26	70.24	4.39	13.92	88.55	20.7%	0.0%	0.0%	79.3%	0.0%	0.0%	0.0%	0.0%	0.0%
27	23.35	1.24	3.94	28.53	18.2%	0.0%	0.0%	81.8%	0.0%	0.0%	0.0%	0.0%	0.0%
28	67.23	3.69	11.72	82.64	18.6%	0.0%	0.0%	19.1%	0.0%	0.0%	62.2%	0.0%	0.0%
29	15.53	1.18	3.75	20.45	24.1%	9.5%	0.0%	66.4%	0.0%	0.0%	0.0%	0.0%	0.0%
30	9.92	0.82	2.59	13.33	25.6%	0.0%	0.0%	74.4%	0.0%	0.0%	0.0%	0.0%	0.0%
31	111.16	4.99	15.85	132.00	15.8%	61.7%	0.0%	22.5%	0.0%	0.0%	0.0%	0.0%	0.0%
32	23.35	2.91	9.24	35.50	34.2%	0.0%	0.0%	0.0%	28.6%	25.5%	11.7%	0.0%	0.0%
33	14.69	1.21	3.84	19.74	25.6%	0.0%	0.0%	74.4%	0.0%	0.0%	0.0%	0.0%	0.0%
34###	643.42	31.82	##	ADMINISTRATIVE TASKS. DISTRIBUTED IN 'ADMIN TASK COST' OVER ALL OTHER TASKS									
35	148.45	9.72	30.83	188.99	21.5%	13.8%	0.0%	56.5%	0.0%	4.7%	3.6%	0.0%	0.0%
36	104.56	7.42	23.53	135.51	22.8%	28.6%	0.0%	33.0%	0.0%	15.6%	0.0%	0.0%	0.0%
37	19.30	1.39	4.42	25.11	23.1%	15.4%	0.0%	61.4%	0.0%	0.0%	0.0%	0.0%	0.0%
38	15.62	1.06	3.36	20.04	22.1%	0.0%	0.0%	77.9%	0.0%	0.0%	0.0%	0.0%	0.0%
39	43.28	2.30	7.30	52.88	18.2%	0.0%	0.0%	81.8%	0.0%	0.0%	0.0%	0.0%	0.0%
40	11.96	0.64	2.02	14.61	18.2%	0.0%	0.0%	81.8%	0.0%	0.0%	0.0%	0.0%	0.0%
41	11.39	0.61	1.92	13.91	18.2%	0.0%	0.0%	81.8%	0.0%	0.0%	0.0%	0.0%	0.0%
42	47.76	4.12	13.06	64.93	26.5%	0.0%	0.0%	66.5%	0.0%	7.1%	0.0%	0.0%	0.0%
43	1026.39	32.06	101.70	1160.15	11.5%	88.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL	3663.01	212.85	675.24	4551.10	19.5%	31.6%	0.0%	36.2%	0.6%	4.9%	7.2%	0.0%	0.0%

NOTE: -NE- . NO ENTRY FOR THIS TASK

* EMPLOYEE CATEGORY DESIGNATIONS: A, PROFESSIONAL LIBRARIAN; R, OTHER PROFESSIONAL; C, LIBRARY ASSISTANT; D, CLERK; E, STUDENT/PAGE; F, OTHER; G, PAID BY OUTSIDE SOURCE; H, VOLUNTEER.

ADMINISTRATIVE COST DISTRIBUTED FROM ADMINISTRATIVE DEPARTMENT BUDGET

APPENDIX G

SAMPLE DECK SET UPS



1

1914-1918
1919-1921
1922-1924
1925-1927
1928-1930
1931-1933
1934-1936
1937-1939
1940-1942
1943-1945
1946-1948
1949-1951
1952-1954
1955-1957
1958-1960
1961-1963
1964-1966
1967-1969
1970-1972
1973-1975
1976-1978
1979-1981
1982-1984
1985-1987
1988-1990
1991-1993
1994-1996
1997-1999
2000-2002
2003-2005
2006-2008
2009-2011
2012-2014
2015-2017
2018-2020
2021-2023
2024-2026
2027-2029
2030-2032
2033-2035
2036-2038
2039-2041
2042-2044
2045-2047
2048-2050
2051-2053
2054-2056
2057-2059
2060-2062
2063-2065
2066-2068
2069-2071
2072-2074
2075-2077
2078-2080
2081-2083
2084-2086
2087-2089
2090-2092
2093-2095
2096-2098
2099-2101
2102-2104
2105-2107
2108-2110
2111-2113
2114-2116
2117-2119
2120-2122
2123-2125
2126-2128
2129-2131
2132-2134
2135-2137
2138-2140
2141-2143
2144-2146
2147-2149
2150-2152
2153-2155
2156-2158
2159-2161
2162-2164
2165-2167
2168-2170
2171-2173
2174-2176
2177-2179
2180-2182
2183-2185
2186-2188
2189-2191
2192-2194
2195-2197
2198-2199

[illegible]

[illegible]

[illegible]

SAMPLE DECK FOR THE USE OF THE FACT SUBROUTINE

DATA CARDS FOR THE ACTIVITY SHEETS

ALL

DATA CARDS FOR THE TELEPHONE (S) CARDS

DATA CARDS FOR SERIALS ACTIVITY SHEETS

TELEPH

ADDITIONAL ACTIVITY SHEETS DATA CARDS

62

DATA CARDS FOR COMMUNICATIONS ACTIVITY SHEETS

63

DATA CARDS FOR AS EMPLOYERS IN THREE TELEPHONES

DATA CARDS FOR SERIALS

DATA CARDS FOR TELEPHONE (S) CARDS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

DATA CARDS FOR SERIALS

APPENDIX H

PROGRAM LISTING FOR THE FACT SUBROUTINE

13/07/42

DATE = 76317

FACT

21

IV 6 LEVEL

```

0001 SUBROUTINE FACT(LBN,NOEMP)
      C THE PURPOSE OF THE SUBROUTINE FACT IS TO SUMMARIZE THE INPUT FROM
      C THE ACTIVITY SHEETS, USING THE STAFF LISTS AND ASSOCIATED DATA
      C FROM THE CASE STUDY FORM NUMBER 3 PRODUCING THE OUTPUT SUMMARY TABLES
      C OF TIME AND COST FOR EACH LISTED TASK, AND UNIT TIME AND COST FOR
      C THOSE TASKS WHERE THE VOLUME DATA IS AVAILABLE.
      C DIMENSION EMCST(50),FR(7),COST(50),PC(50),KLT(8),CLCS(8)
0002 DIMENSION PTTM(P),UNTM(50),FMPC(8),IIN(7,3),ISL(7,3)
0003 DIMENSION INV(7,3),IVD(7,3)
0004 DIMENSION TCOST(50),ACTAC(50)
0005 REAL*8 ACT,IVC,EMID(50)
0006 INTEGER TRLV(7,3),FMNK(50),TIME(50),VOL(50),PT(50),TIME(50)
0007 FORMAT LIST, FORMAT STATEMENTS NUMBERED 8,11,16,4,3,AND 4A USE THE
      C AT* FORMAT.
      C 1 FORMAT(13,3X,13,1X,7I5)
0008 2 FORMAT(13,3X,13,1X,4I5)
0009 3 FORMAT (2I5)
0010 4 FORMAT(24HIEMPLOYEE COST LIST FOR ,I5,/,25H EMPID CLASS COST/HOU
0011 IUP)
0012 5 FORMAT(1H ,A6,I5,F10,2)
0013 6 FORMAT(13,3X,13,A6, I5,I10,F5,2,I3,I5,5X,I5)
0014 7 FORMAT(4A,2I5,I10,F5,0)
0015 8 FORMAT(11HILIBRARY NO,I5,/,1H ,A8,ACTIVITY SHEET SUMMARY II: TIME
      C 1 PROFILE,/,1H ,I30 (/,),/,1H ,T31,TIME*MIN,*,T80,PERCENT OF TOTAL
      C 2L GROUP TIME,/,4H ACT,T27,EMPLOYEE CATEGORY,*,T85,EMPLOYEE CAT
      C 3EGORY,/,4H NO,7X,A1,6X,B1,6X,C1,6X,D1,6X,E1,6X,F1,6X,G1,
      C 4A1,7X,B1,7X,C1,7X,D1,7X,E1,7X,F1,7X,G1,7X,H1,6X,2(,COST,$,
      C 5X,/,H TOTAL,5X,A1,7X,B1,7X,C1,7X,D1,7X,E1,7X,F1,7X,G1,
      C 5X,/,H)
0016 9 FORMAT(1H0,I3,2X,I9,8(F7,1,*,*))
0017 11 FORMAT(11HILIBRARY NO,I5,/,1H ,A8,ACTIVITY SHEET SUMMARY III: COS
      C 1T PROFILE,/,1H ,I30(,/,),/,1H ,T24,TASK COST($),BY,T75,TDIRECT
      C 2 ADMIN,*,T102,TDIRECT ADMIN,*,TOTAL,/,4H ACT,T23,EMPLOYEE
      C 3CATEGORY,*,T75,2(,TASK,6X),VOL-,1X,3(2X,UNIT,3X),/,4H NO,7X,
      C 4A1,7X,B1,7X,C1,7X,D1,7X,E1,7X,F1,7X,G1,7X,H1,6X,2(,COST,$,
      C 5X,/,H),VOL-,1X,3(3X,COST,$),/, INC*)
0018 14 FORMAT(6H0TOTAL,9I7,8(F7,1,*,*))
0019 16 FORMAT(37HNOTE: -NE- ,NO ENTRY FOR THIS TASK,/,1H ,*,EMPLOYEE
      C 1CATEGORY DESIGNATIONS: A,PROFESSIONAL LIBRARIAN B, OTHER PROFESSI
      C 2ONAL: C, LIBRARY ASSISTANT; D, CLERK;/,1H ,T21,*,E, STUDENT/PAGE:
      C 3 F, OTHER: G, PAID BY OUTSIDE SOURCE: H, VOLUNTEER,*)
0020 17 FORMAT(13,3X,13,1X,7F5,0)
0021 43 FORMAT(11HILIBRARY NO,I5,/,1H ,A8,ACTIVITY SHEET SUMMARY II: TASK
      C 1 TIME PROFILE,/,1H ,I30(,/,),/,1H ,T45,PERCENT OF TOTAL TASK TIM
      C 2E,/,4H ACT,6X,*,TOTAL TASK,T50,EMPLOYEE CATEGORY,*,T89,VOLUME
      C 3 UNIT,/,/
      C 34H NO,7X,TIME*MIN,6X,A1,7X,B1,7X,C1,7X,D1,7X,E1,7X,F1,7X,
      C 4G1,7X,H1,15X,/,TIME*MIN INC*)
0022 48 FORMAT(11HILIBRARY NO,I5,/,1H ,A8,ACTIVITY SHEET SUMMARY IV: PROF

```


PAGE 0003

13/07/42

DATE = 76317

FORTPAN IV 6 LEVEL 21

FACT

```

0059 IVO(I,J)=IVD(I,J)+IHOL+TBLV(I,2)
0060 I=I+1
0061 GO TO 20
0062 TBLV(I,1)=-3
0063 DO 101 J=1,3
0064 ISL(I,J)=ISL(I,J)+IHOL+TBLV(I,3)
0065 I=I+1
0066 GO TO 20
0067 READ(5,17)IPG,LTH,ISAR,FB(I),I=1,7)
C READ CARD ON FRINGE BENEFIT RATE, IN INTEGER FORM, SO COMPUTE TO GET
C SALARY/WAGE ADD ON
DO 23 I=1,7
23 FB(I)=FB(I)/100.
C READ CARD ON SARHATICAL, COMPUTE NUMBER OF DAYS ACCRUED ANNUALLY
READ(5,2) IPG,LTH,NDY,K$AR,ISAR,MSAR
SAR=0.
IF(NDY,EQ,21)GO TO 47
SAR=(MSAR*176.)/ISAR
C FINISHFO WITH TABLE GENERATION NOW RD EMP ID, COMP HOURLY COST EACH
47 CONTINUE
ENTRY FACT2(LRN,NDEMP)
LRID=LHN
WRITE (6,4) LRID
DO 30 N=1,NDEMP
READ(5,6) IPG,LTB,IDE,KL,ISAL,WGS,IDHR,THRS,NYRS,NOM
EMD(N)=IDE
EMNK(N)=KL
IF(1ISAL,LT,.01) GO TO 3A
DN=0.
IF(KL,NE,K$AR) GO TO 32
DN=$AR
32 DZOF=TBLV(KL,1)
IF(DZOF,LT,0) GO TO 40
33 FR=1.
IF(NOM,LT,.01) GO TO 35
FR=NOM/12.
35 FR=FR*THRS/40.
DN=(2080.-DZOF*FR-UN)*FR
34 CNUM=ISAL*(1.+FR(KL))
FMCT(N)=CNUM/DN
36 WRITE(6,5) EMD(N),EMNK(N),FMCT(N)
GO TO 30
38 FMCT(N)=WGS*(1.+FR(KL))
GO TO 36
C FINISHED EMPLOYEE COST LIST
40 INT=1
IV=1
DZOF=0

```

0099
0100
0101

13/07/42

DATE = 76317

FORTRAN IV G LEVEL 21

FACT

```

0102 IF (TRLV(KL,1)+5) 27,27,25
0103 IF (NYRS.LE.INV(KL,IV)) GO TO 29
0104 IF (IV.GE.3) GO TO 29
0105 IV=IV+1
0106 GO TO 27
0107 29 070F=IVD(KL,IV)
0108 IF (TRLV(KL,1)+5) 25,33,25
0109 25 IF (NYRS.LE.IIN(KL,INT)) GO TO 31
0110 IF (INT.GE.3) GO TO 31
0111 INT=INT+1
0112 GO TO 25
0113 31 070F=ISL(KL,INT)+070F
0114 GO TO 33
0115 30 CONTINUE
0116 IF (IND.GT..5) RETURN
0117 IND=0
0118 C FINISHED EMPLOYEE COST LIST, NOW TIME COST TABLE
0119 ENTRY FACT3 (LRN,NOEMP)
0120 LBID=LRN
0121 50 READ(5,7)ACT,NACT,IAD,ADM,FTE
0122 C READS DEPARTMENT UP TO 8 ALPHA CHARACTERS THEN NUMBER OF LISTED ACTIVITIES
0123 C THEN THE NUMBER OF THE ADMINISTRATIVE TASK, THEN THE
0124 C LIBRARY ADMINISTRATIVE BUDGET AND TOTAL FTE FOR INCLUSION ON ADM OVERHEAD
0125 IF (NACT.GT.50) STOP
0126 C ADMINISTRATIVE DEPARTMENT OVERHEAD ADD ON PER MINUTE
0127 IF (FTE.ALT..01) ADMCST=0.
0128 IF (FTE.GT..01) ADMCST=((IDM/FTE)/2080.)/60.
0129 C PRE ZERO TIME AND COST MATRICES
0130 PT(1)=0
0131 PC(1)=0.
0132 VOL(1)=0
0133 TIME(1,J)=0
0134 53 COST(I,J)=0.
0135 57 CONTINUE
0136 C READ TASK CARDS SUMMING TIME AND COST INTO MATRIX ACCORDING TO TASK
0137 C NUMBER AND EMPLOYEE CLASSIFICATION.
0138 51 READ(5,52) IP,LIH,IDE,IAC,ITIME,IVOL
0139 52 FORMAT(11,5X,I3,A6,315)
0140 C FINISHED IF TASK NUMBER EQUALS ZERO.
0141 IF (IAC.LT..01) GO TO 100
0142 N=1
0143 54 IF (EMIO(N).EQ.IDE) GO TO 56
0144 C STOP IF UNABLE TO MATCH EMPLOYEE IDENTIFICATION.
0145 IF (N.GT.NOEMP) STOP 55
0146 N=N+1
0147 GO TO 54
0148
0149
0150
0151
0152
0153
0154
0155
0156
0157
0158
0159

```

PAGE 0005

13/07/42

DATE = 76317

FACT

FORTPAN IV G LEVEL 21

```

0140 56 KL=EMNK(N)
0141 COST1=ITIME*EMCST(N)/60.
0142 TIME(I,ACT+KL)=TIME(I,ACT+KL)+ITIME
0143 COST(I,ACT+KL)=COST(I,ACT+KL)+COST1
0144 N=I,ACT
0145 VOL(N)=VOL(N)+IVOL
0146 IF(IVOL.NE.0) GO TO 51
0147 PT(N)=PT(N)+ITIME
0148 PC(N)=PC(N)+COST1
0149 GO TO 51

C INDIVIDUAL CARDS PROCESSED NOW SUMMARIZE AND WRITE
100 CONTINUE
C TIME PROFILE FORM I
61 KLTM(J)=0
61 KLTT=0
60 CONTINUE
DO 40 I=1,NACT
TIME(I)=0
DO 62 J=1+8
TIME(I)=TIME(I)+TIME(I,J)
62 KLTM(J)=KLTM(J)+TIME(I,J)
KLTT=KLTT+TIME(I)
60 CONTINUE
WRITE(6,8) LRID, ACT
WRITE(6,201)
DO 37 I=1,NACT
IF(I-25)67,68,67
68 WRITE(6,16)
WRITE(6,8)LRID,ACT
WRITE(6,201)
67 CONTINUE
IF(TIME(I),GT,.01) GO TO 93
WRITE(6,69) I
GO TO 37
93 CONTINUE
DO 28 J=1+8
PTTM(J)=0.
IF(KLTM(J),LT,.01) GO TO 28
PTTM(J)=TIME(I,J)*100./KLTM(J)
28 CONTINUE
WRITE(6,9) I, (TIME(I,J),J=1+8), TIME(I), (PTTM(J),J=1+8)
37 CONTINUE
DO 39 J=1+8
PTTM(J)=0
IF(KLTM(J),LT,.01) GO TO 39
PTTM(J)=KLTM(J)*100./KLTM(J)
39 CONTINUE
WRITE(6,14) (KLTM(J),J=1+8), KLTT, (PTTM(J),J=1+8)

```

FORTRAN IV G LEVEL 21

FACT

DATE = 76317

13/07/42

PAGE 0006

```

0186 WRITE (6,16)
C SUMMARY FORM 2
0187 WRITE(6,43) LR1D,ACT
0188 WRITE(6,201)
0189 DO 41 J=1,NACT
0190 DO 42 J=1,8
0191 PTM(J)=0
0192 IF (I-25) 63,45,63
0193 45 CONTINUE
0194 WRITE(6,16)
0195 WRITE(6,43) LR1D,ACT
0196 WPLF(6,201)
0197 63 CONTINUE
0198 INC=0
0199 UNTM(I)=0.
0200 IF (TIME(I).GT..01) GO TO 64
0201 WRITE(6,69) I
0202 GO TO 41
0203 64 CONTINUE
0204 RTM=100./TIME(I)
0205 DO 58 J=1,8
0206 PTM(J)=TIME(I,J)*RTM
0207 IF (VOL(I).LT..01) GO TO 65
0208 IF (PT(I).NE.0) INC =1
0209 TTT=TIME(I)-PT(I)
0210 UNTM(I)=TTT/VOL(I)
0211 WRITE(6,44) I,TIME(I),(PTM(J),J=1,8),VOL(I),UNTM(I),INC
0212 FORMAT(1H0,13,3X,110,3X,8(F7,1,'%'),110,F10,2,15)
0213 GO TO 41
0214 65 CONTINUE
0215 WRITE(6,101),TIME(I),(PTM(J),J=1,8)
0216 FORMAT(1H0,13,3X,110,3X,8(F7,1,'%'),,
0217 41 CONTINUE CLMT=CLTT -ME-)
0218 CLMT=CLTT
0219 DO 66 J=1,8
0220 PTM(J)=(CLMT(J)/CLMT)*100.
0221 66 CONTINUE
0222 WRITE(6,46)KLT,(PTM(J),J=1,8)
0223 FORMAT(6H0TOTAL ,3X,18,3X,8(F7,1,'%'))
0224 46 WRITE(6,16)
C SUMMARY FORM 3
0225 WRITE (6,11) LR1D, ACT
0226 ADC=0.
0227 TTSK=0.
0228 DO 81 J=1,8
0229 81 CLCS(J)=0.
0230 CLCT=0.
0231

```

13/07/42

DATE = 76317

FACT

FORTRAN IV G LEVEL 21

```

0232 DO R0 I=1,NACT
0233 UADC=0.
0234 INC=0.
0235 ACTAC(I)=0.
0236 TSKCS=0.
0237 UNCST=0.
0238 TCOST(I)=0
0239 UNTOT=0.
0240 IF (I-25)*R7*.88*.R7
0241   RA WRITE (6,16)
0242   WRITE (6,91)
0243   WRITE (6,11) LRIO,ACT
0244   WRITE (6,201 )
0245   R7 CONTINUE
0246 DO R2 J=1,R
0247   TCOST(I)=TCOST(I)+COST(I,J)
0248   CLCS(J)=CLCS(J)+COST(I,J)
0249   IF (TCOST(I).LT*.01) GO TO R4
0250   CLCT=CLCT+TCOST(I)
0251   IF (VOL(I).LT*.01) GO TO R5
0252   IF (PC(I).NE.0.)INC=1
0253   TCC=TCOST(I)-PC(I)
0254   UNCST =TCC/VOL(I)
0255   UADC=UNTM(I)*ADMCST
0256   UNTOT=UNCST+UADC
0257   R4 ACTAC(I)=TIME(I)*ADMCST
0258   ADC=ADC+ACTAC(I)
0259   TSKCS=ACTAC(I)+TCOST(I)
0260   TTSK=TTSK+TSKCS
0261   IF (TSKCS.GT*.01) GO TO R3
0262   WRITE (6,69) I
0263   GO TO R0
0264   R3 WRITE (6,12) I,(COST(I,J),J=1,R),TCOST(I),ACTAC(I),VOL(I),
      1UNCST,UADC,UNTOT,INC
0265   12 FORMAT(1H0,I3,2X,6F8.2,2F10.2,I7,3F9.2,I5)
0266   GO TO R0
0267   R5 CONTINUE
0268   R6 ACTAC(I)=TIME(I)*ADMCST
0269   ADC=ADC+ACTAC (I)
0270   TSKCS=ACTAC(I)+TCOST(I)
0271   TTSK=TTSK+TSKCS
0272   WRITE (6,13) I,(COST(I,J),J=1,R),TCOST(I),ACTAC(I)
0273   13 FORMAT(1H0,I3,2X,6F8.2,2F10.2,1 -NE-)
0274   R0 CONTINUE
0275   WRITE (6,15) (CLCS(J),J=1,R),CLCT,ADC
0276   15 FORMAT(6H0TOTAL,8F8.2,2F10.2)
0277   WRITE (6,16)
0278   WRITE (6,91)

```

13/07/42

DATE = 76317

FACT

FORTPAN IV G LEVEL 21

C SUMMARY FORM 4

```

0279 *RITE(6,.48) L#10,ACT
0280 *RITE(6,.201)
0281 ADTSK=0
0282 IF(IAD,LT,.01) GO TO 90
0283 DN=KLTT-TIME(IAD)
0284 IF(DN,LT,.01) STOP
0285 ADTSK=(TCOST(IAD)+ACTAC(IAD))/DN
90 CONTINUE
0286 DO 49 I=1,NACT
0287 DO 59 J=1,8
0288 PTTM(J)=0
0289 ADCST=0
0290 TOTAL=0
0291 ADPRC=0
0292 IF(I-23) 74,70,74
0293 CONTINUE
0294 *RITE(6,16)
0295 *RITE(6,91)
0296 WRITE(6,48) L#10,ACT
0297 *RITE(6,201)
0298 CONTINUE
0299 IF(I,NE,IAD) GO TO 71
0300 WRITE(6,72) I,TCOST(I),ACTAC(I)
0301 FORMAT(I#0,13,###,2F10.2,1 ## ADMINISTRATIVE TASKS, DISTRIBUTED I
0302 IN **ADMIN TASK COST** OVER ALL OTHER TASKS*)
GO TO 49
0303 CONTINUE
0304 IF(ITEM(I),GT,.01) GO TO 73
0305 CONTINUE
0306 *RITE(6,74) I
0307 FORMAT(I#0,13,10X,1-NE-*)
0308 GO TO 49
0309 CONTINUE
0310 ADCST=TIME(I)*ADTSK
0311 TOTAL=TCOST(I)+ACTAC(I)+ADCST
0312 IF(TOTAL,LT,.01) GO TO 78
0313 ADPRC=(ACTAC(I)+ADCST)*100./TOTAL
0314 DO 76 J=1,8
0315 PTTM(J)=COST(I,J)*100./TOTAL
0316 CONTINUE
0317 WRITE(6,77) I,TCOST(I),ACTAC(I),ADCST,TOTAL,ADPRC,(PTTM(J),J=1,8)
0318 FORMAT(I#0,13,2X,4F10.2,9(F7.1,*,*))
0319 49 CONTINUE
0320 IF(IAD,GT,.01) GO TO 92
0321 TOTAL=CLCT
0322 ADCST=0
0323 DO 97 J=1,8
0324

```

```

FORTRAN IV 6 LEVEL 21          FACT          DATE = 76317          13/07/42          PAGE 0009

0325 97 PTTM(J)=CLCS(J)*100./TOTAL
0326 60 10 96
0327 92 CONTINUE
0328 TOTAL=CLCT*ADC
0329 CLCT=CLCT-TCOST(IAD)
0330 ADC=ADC-ACTAC(IAD)
0331 ADCST=TCOST(IAD)+ACTAC(IAD)
0332 DO 89 J=1,8
0333 89 PTTM(J)=(CLCS(J)-COST(IAD,J))*100./TOTAL
0334 96 CONTINUE
0335 ADPRC=(ADCST+ADC)*100./TOTAL
0336 WRITE(5,98) CLCT,ADC,ADCST,TOTAL,ADPRC,(PTTM(J),J=1,8)
0337 98 FORMAT(6H0TOTAL,4F10.2,9(F7.1,4X))
0338 WRITE(5,16)
0339 WRITE(5,1)
0340 RETURN
0341 END

```


APPENDIX I

THE CON SUBROUTINE PROGRAM LISTING AND SAMPLE OUTPUT

FORTRAN IV 6 LEVEL 21 CON DATE = 76317 13/07/42 PAGE 0001

```

0001 SUBROUTINE CON(LIB,NOEMP)
C THE PURPOSE OF THE CON SUBROUTINE IS TO SUMMARIZE CASE STUDY STAFF
C LISTS FOR ACQUISITIONS, CATALOGING, SERIALS, AND INTERLIBRARY LOAN
C DEPARTMENTS (PAGE 7 THROUGH 10) FOR INCLUSION WITH THE SURVEY DATA.
REAL*8 EID
DIMENSION FTE(4,8),SAL(4,8)
INTEGER F
1 FORMAT(11,12,3X,I3,46,I5,F10.0,F5.0,1X,F2.0)
7 FORMAT(9HOLINE NO ,I5,4(F10.2,10X),T100,'CARD NO',I5)
9 FORMAT(1H1,T20,'LIBRARY NUMBER',I5,/,I40,T20,'DEPARTMENT FTE TABLE
1',
/,I40,T16,'ACQUISITIONS',T37,'CATALOGING',T59,'SERIAL
2S',T74,'INTERLIBRARY LOAN',/,I4,T19,((31-40)',T39,((41-50)',T59,
3,((51-60)',T79,((61-70)')
DO 2 I=1,4
DO 2 J=1,8
FTE(I,J)=0
2 SAL(I,J)=0
C READ CARDS AND ACCUMULATE FTE AND SALARY ACCORDING TO DEPARTMENT
C (PAGE NUMBER) AND EMPLOYEE CLASSIFICATION ( 1 THROUGH 8).
DO 3 J=1,NOEMP
READ(5,1) F,IP,LIB,EID,IT,AS,WG,HW
IF(IP.EQ.0) GO TO 3
I=IP-6
FW=40.
FR=HW/FW
FTE(I,IT)=FTE(I,IT)+FR
IF(AS.LT..01) GO TO 4
SAL(I,IT)=SAL(I,IT)+FR*AS
GO TO 3
4 SAL(I,IT)=SAL(I,IT)+WG* 2089.*FR
3 CONTINUE
WRITE(6,9) LIB
DO 6 J=1,8
KNO=J*12
WRITE(6,7) J,(FTE(I,J),I=1,4),KNO
6 CONTINUE
WRITE(6,10)
10 FORMAT(1H0,T20,'DEPARTMENT SALARY TABLE')
DO 8 J=1,6
KLN=J*8
KNO=J*20
WRITE(6,7) KLN,(SAL(I,J),I=1,4),KNO
8 CONTINUE
RETURN
END

```

DEPARTMENT FTE TABLE

INTERLIBRARY LOAN
(61-70)SERIALS
(51-60)CATALOGING
(41-50)ACQUISITIONS
(31-40)

CARD NO 13
CARD NO 14
CARD NO 15
CARD NO 16
CARD NO 17
CARD NO 18
CARD NO 19
CARD NO 20

1.00
0.0
1.00
1.42
0.25
0.0
0.0
0.0

0.0
0.0
0.0
0.35
0.0
0.0
0.0
0.0

0.88
0.0
0.0
2.97
0.38
0.45
0.0
0.0

0.0
0.0
0.38
1.15
0.0
0.0
0.0
0.0

LINE NO 1
LINE NO 2
LINE NO 3
LINE NO 4
LINE NO 5
LINE NO 6
LINE NO 7
LINE NO 8

DEPARTMENT SALARY TABLE

CARD NO 21
CARD NO 22
CARD NO 23
CARD NO 24
CARD NO 25
CARD NO 26

12900.00
0.0
7464.00
7311.71
1274.00
0.0

0.0
0.0
0.0
2006.00
0.0
0.0

10783.50
0.0
0.0
17650.59
1911.00
1029.60

0.0
0.0
3991.50
8364.00
0.0
0.0

LINE NO 9
LINE NO 10
LINE NO 11
LINE NO 12
LINE NO 13
LINE NO 14

4721207000045100:
2C:1176:WICHE:2B133

